Office of Inspector General
Central Audit Division
Audit Report

WATER

Proactive Approach Would Improve EPA's Water Quality Standards Program

Report No. 2000-P-001385-00023

September 29, 2000

Inspector General Division Conducting the Audit:	Central Audit Division Kansas City, Kansas
Program Office Involved:	Office of Water
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September 29, 2000

MEMORANDUM

SUBJECT: Proactive Approach Would Improve EPA's
Water Quality Standards Program
Report No. 2000-P-001385-00023

FROM: Connie Walton
Audit Manager

TO: J. Charles Fox
Assistant Administrator for Water

Attached is our report entitled *Proactive Approach Would Improve EPA's Water Quality Standards Program*. We discussed our findings with your staff and issued a draft report. We summarized your response to the recommendations in the final report and included your response in Appendix I.

ACTION REQUIRED

In accordance with Environmental Protection Agency (EPA) Order 2750, you, as the action official, are required to provide this office a written response to the audit report within 90 days of the final audit report date. For corrective actions planned but not completed by the response date, reference to specific milestone dates will assist in deciding whether to close this report. We appreciate the cooperation your staff provided throughout the audit.

This audit report contains findings that describe problems the Office of Inspector General (OIG) has identified and corrective actions OIG recommends. This audit report represents the opinion of OIG and the findings contained in this audit report do not necessarily represent the final EPA position. Final determinations on matters in this audit report will be made by EPA managers in accordance with established EPA audit resolution procedures.

We have no objections to the release of this report to the public. If you have any questions, please call me at (913) 551-7007. Please refer to report number 2000-P-001385-00023 on any correspondence.

Attachment

EXECUTIVE SUMMARY

INTRODUCTION

Water is one of our vital resources and must be protected. Water quality standards set goals for water to ensure that it is safe for activities such as swimming and fishing. Water quality standards are the foundation of all aspects of the water program and are necessary to determine the true quality of our nation's waters. All states have assumed the responsibility for setting water quality standards for waters within their states.

Since 1997, we audited eight state water quality programs to develop a picture of how these programs were performing. We identified consistent problems within the state programs with the lack of criteria for pollutants, delays in Environmental Protection Agency (EPA) approval of state water quality standards, and plans to protect high quality waters. This audit was conducted to further assess the problems found in the states and identify what EPA can do to help alleviate the problems.

OBJECTIVES

Our specific objectives were to answer the following questions:

- What are the barriers to developing water quality criteria for priority pollutants and other toxic pollutants?
- Why are consultations required by the Endangered Species Act causing long delays in EPA approval of state water quality standards?
- Why have states not developed antidegradation implementation plans?

RESULTS IN BRIEF

Water quality criteria identify the amount of a specific pollutant that may be present in the water and still consider the water safe. These criteria are crucial because they help form the basis for state pollution prevention and detection controls. EPA has not developed criteria for all of the priority pollutants identified by the Clean Water Act and has never added pollutants, such as MtBE, to the priority pollutant list. EPA focused its efforts on revising existing criteria and only developed criteria for other pollutants when requested by the states or the public, or when needed to address significant environmental problems. EPA has published only two criteria for new pollutants in the past 10 years. EPA officials stated that funding was a barrier to criteria development. As a result, many toxic pollutants are being discharged into the nation's waters without pollution prevention and detection controls in place.

As required by the Clean Water Act, EPA is responsible for approving state and tribal water quality standards. Until a recent court opinion, EPA did not have a strong incentive to finalize consultations or quickly approve proposed standards because these standards became effective when adopted by either the state or tribe. EPA's approval of these standards had little or no direct environmental impact. EPA encouraged regional coordination with other federal agencies to satisfy the requirements of the Endangered Species Act. However, some of EPA's regional offices did not complete biological evaluations necessary for these consultations. Incompatibilities between the Clean Water Act and Endangered Species Act also contributed to the long delays experienced by EPA in approving state water quality standards.

Federal regulations require states to prepare antidegradation plans to ensure high-quality waters are maintained. Lack of national guidance is the main reason some states and tribes have not developed antidegradation implementation plans. Fifteen of the 53 states and territories did not have plans to implement policies to protect high quality water. EPA had not provided national guidance to states on developing

these implementation plans because of uncertainties regarding the components of an implementation plan. Without implementation plans, states and the public risk the potential deterioration of their water quality.

RECOMMENDATIONS

We recommend the Assistant Administrator for Water develop a process to proactively obtain and use data generated by other program offices when developing water quality criteria. We also recommend that the Assistant Administrator train applicable EPA employees in development of biological evaluations, facilitate the sharing of knowledge among EPA regions on developing biological evaluations, and encourage the participation of the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) when developing water quality criteria. Finally, we recommend the Assistant Administrator for Water develop guidance on antidegradation implementation.

AGENCY COMMENTS AND OIG EVALUATION

EPA generally agreed with the recommendations, but disagreed with the reporting requirement for state antidegradation policies. We changed the language of this recommendation based upon the Agency's response. EPA agreed that a systematic approach for setting criteria development priorities that is driven by environmental concerns and that uses data generated by other program offices is needed. EPA also agreed that sending regional staff to training courses offered by the Services, ensuring EPA regional staff shared best practices when developing biological evaluations, and encouraging the participation of the Services when developing future water quality criteria would mitigate the long delays EPA has experienced when approving state-adopted water quality standards. Finally, EPA agreed to develop national guidance on antidegradation implementation.

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INTRODUCTION

PURPOSE

When it approved amendments to the Clean Water Act in 1977, Congress recognized that water was one of our vital resources and must be protected. One of the Environmental Protection Agency's (EPA) 10 strategic goals is to have clean and safe water that sustains human health, supports and maintains aquatic life, and provides for both recreational and economic activities. The Clean Water Act is the primary legislation addressing water quality and calls for the development, assessment, and maintenance of water quality standards. Water quality standards are the foundation of the water quality programs and set goals for each waterbody.

Since 1997, the Office of Inspector General (OIG) has audited the water quality standards program in eight states to assess the performance of state programs and to determine if there were national issues that limited the effectiveness of the state water quality standards programs. We identified three national issues in these audits: (1) lack of water quality criteria for some pollutants found in state waters, (2) delays in EPA approval of state water quality standards, and (3) lack of plans needed to protect high quality water.

We further developed these issues in this audit to provide useful information to promote economy, efficiency, and effectiveness of the water quality standards program. Our specific objectives were to answer the following questions:

- What are the barriers to developing water quality criteria for priority pollutants and other toxic pollutants?
- Why are consultations required by the Endangered Species Act causing long delays

in EPA approval of state water quality standards?

- # Why have states not developed antidegradation implementation plans?

BACKGROUND

The objective of the Clean Water Act is to restore and maintain the quality of the nation's surface waters. The Clean Water Act requires a consistent national approach for maintaining, improving, and protecting water quality while allowing states flexibility to implement their own programs. The Clean Water Act requires states and authorized tribes to adopt water quality standards for all surface waters within their boundaries. Water quality standards serve as the regulatory basis for pollutant discharge limits in the state discharge permitting programs, and provide the basis for the total maximum daily load allocations and nonpoint source controls.

Water quality standards define the water quality goals for a waterbody, such as fishing and swimming. The standard includes three components: the designated use or uses to be made of the water, pollutant criteria necessary to protect the uses, and a policy to prevent or limit degradation of water quality.

The Clean Water Act defines broad water uses and sets a goal that all waters will meet these uses. The Clean Water Act provides that wherever attainable, waters achieve a level of quality that provides for the protection of fish, shellfish, and wildlife, and recreation in and on the water - commonly referred to as the "fishable/swimmable" goals.

Water quality criteria identify the amount of a specific pollutant that may be present in the water column and still protect the use. EPA develops and publishes two types of water quality criteria: (1) criteria protective of fish and other types of aquatic life, and (2) criteria protective of

human health. For example, EPA criteria could identify the amount of a pesticide that can be present in the water and still protect fish (the "fishable" goal), or identify the amount of a pesticide that can be present in the water and protect humans when using the water for recreation - such as swimming (the "swimmable" goal). In recent years, EPA has focused on the development of criteria for nutrients in the water column, as well as methodology revisions to reflect new science for pollutants found in the water column. EPA has concentrated on the development of sediment quality guidelines and biocriteria as well.

The Clean Water Act, as amended in 1977, listed 65 chemical compounds and families of compounds as toxic pollutants. EPA translated the 65 compounds into 126 more specific pollutants, developing the "priority pollutant" list - the most persistent, prevalent, and toxic of pollutants. These pollutants can harm human health and the environment even when present in minute amounts in the water column - at the parts-per-billion level. The Clean Water Act required EPA to develop water quality criteria for these pollutants. States and authorized tribes are then required to include these criteria in their water quality standards wherever the pollutant is present and could reasonably be expected to interfere with designated uses.

The Clean Water Act provides general guidelines that EPA can use to add or delete pollutants from the priority pollutant list. When EPA publishes a criteria for a pollutant that is not on the priority pollutant list, the pollutant is known as a "nonpriority pollutant." States and authorized tribes are required to include criteria for these pollutants in their water quality standards as needed to protect designated uses.

Water quality criteria adopted by the states and authorized tribes are crucial because they help form the basis for pollution prevention and detection controls. Water quality criteria determine how much pollution can be present in surface waters without jeopardizing attainment of

designated uses, and help determine how much pollution industry can directly discharge into those same waters. Without water quality criteria for pollutants, there are no numeric limits on how much pollution can be found in state and tribal waters. These limits are used to help assess whether the water is safe for its intended uses. Because many states and tribes have limited ability to develop water quality criteria beyond those published by the federal government, it is essential that EPA lead the way in the development of comprehensive water quality criteria.

Antidegradation policies help ensure existing uses are maintained and protected, and help ensure high quality waters are protected unless a lowering of water quality is necessary to accommodate important economic or social development. Antidegradation policies also identify and protect waterbodies of exceptional high quality such as those found in national and state parks.

States and authorized tribes review and revise their water quality standards once every 3 years and obtain EPA approval for new and revised standards. EPA reviews standards for inconsistencies in designated uses, use of scientifically defensible criteria, and adherence to regulatory and statutory requirements. EPA then develops a biological evaluation to determine whether the standards protect endangered and threatened species. EPA consults with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) to ensure the state and tribal water quality standards do not harm endangered species. The Services use the biological evaluations to form their opinion on the protectiveness of the state and tribal water quality standards. In January 1999, EPA and the Services published a draft Memorandum of Agreement designed to establish procedures for enhancing coordination regarding the protection of endangered and threatened species.

SCOPE AND METHODOLOGY

We performed our audit in accordance with the *Government Auditing Standards* (1994 revision) issued by the Comptroller General of the United States as they apply to program audits. Our audit included reviews of the program records and other auditing procedures we considered necessary. We conducted our fieldwork from August 1999 - April 2000. We performed our fieldwork at EPA headquarters in Washington, D.C.

See Exhibit 1 for methodology details.

PRIOR AUDIT COVERAGE

Since 1997, OIG has audited the water quality standards program in eight states (see Exhibit 2) to assess the performance of state programs and to determine if there were national issues that limited the effectiveness of the state water quality standards programs. We identified three national issues in the state audits: (1) lack of water quality criteria for pollutants found in state waters, (2) delays in EPA approval of water quality standards, and (3) lack of plans needed to protect high quality water.

In June 1994, the U.S. General Accounting Office (GAO) issued a report *Water Pollution: EPA Needs to Set Priorities for Water Quality Criteria Issues*. In this report, GAO noted that EPA needed to set up time frames for developing water quality criteria for priority toxic pollutants.

CHAPTER 2
PRIMARY BARRIER TO WATER QUALITY CRITERIA DEVELOPMENT IS EPA'S REACTIVE STRATEGY

Twenty years after Congress authorized EPA to issue criteria for 126 of the most toxic priority pollutants known at that time, EPA has not developed criteria for 19 of the pollutants. Further, EPA has not added any pollutants to this list and has published few criteria for new pollutants introduced into the environment in the past several years. EPA has focused its efforts on revising criteria for existing pollutants. EPA adopted a reactive strategy for criteria development for pollutants found in the water column rather than developing a systematic process using information from other environmental programs to identify pollutants needing criteria. EPA officials stated that funding was a barrier to criteria development. As a result, many toxic pollutants are being discharged into the nation's waters without pollution prevention and detection controls in place.

LACK OF NEW CRITERIA DEVELOPMENT

EPA has not published water quality criteria - as required by the Clean Water Act - for 19 of the 126 priority pollutants (see Exhibit 4). Most of the criteria for priority pollutants were published in 1980. Since 1984, EPA published only one criterion for a priority pollutant which previously did not have criteria. Overall, EPA published only two criteria for new pollutants in the past 10 years.

EPA has never added pollutants to the 1977 priority pollutant list. The Clean Water Act allows EPA to revise the priority pollutant list by adding to or removing any pollutant from the list. The priority pollutant list is important because when EPA publishes a criterion for a priority pollutant, states are then required to adopt criteria for that pollutant if the pollutant is found in the state and can be reasonably expected to interfere with the designated uses of the state waters.

EPA removed three pollutants [dichlorodifluoromethane, trichlorofluoromethane, and bis-(chloromethyl) ether] from the priority pollutant list in 1981. The only attempt EPA made to add a pollutant to the list was in 1980 for ammonia. However, the proposal for ammonia was withdrawn after an overwhelming majority of public comments received were against it. EPA then listed ammonia as a nonpriority pollutant and developed corresponding criteria. As a result, EPA can encourage, but not require states to adopt criteria for ammonia where appropriate.

EPA does not have a process for determining if pollutants should be added to the priority pollutant list. EPA is reluctant to add pollutants to the list because it feels that the goals of the water quality program can be accomplished with other aspects of the Clean Water Act and because of the ramifications of criteria for priority pollutants.

FOCUS HAS BEEN ON REVISING CRITERIA

EPA has focused its efforts on revising existing criteria for priority pollutants. In November 1980, EPA published 105 priority pollutant human health criteria. In 1991, EPA published the National Toxics Rule revising 83 of the existing human health criteria. EPA next revised human health criteria for 22 pollutants in 1997 in drafting the California Toxics Rule.

EPA also published priority pollutant criteria for 64 pollutants in 1980 for the protection of aquatic life. Revisions to several aquatic life criteria appeared in 1985 when EPA revised its methodology for deriving aquatic life criteria. Many criteria were revised again in 1995 when EPA modified the way it expressed aquatic life criteria as a result of a settlement agreement stemming from lawsuits that challenged EPA's criteria for certain metals.

EPA is also developing or revising aquatic life criteria for eleven priority and nonpriority pollutants (see Exhibit 3). According to Agency officials, several of these criteria are

near completion. As a result of its methodology revisions to reflect new science for pollutants found in the water column, EPA identified the need to develop and revise water quality criteria for several priority and nonpriority pollutants that pose a potential risk to human health. EPA may begin developing criteria for these pollutants once the methodology revision is completed. However, according to Agency officials, this is contingent upon future funding.

EPA'S REACTIVE STRATEGY

EPA adopted a reactive strategy for criteria development and only developed criteria when requested by the states or the public, or when needed to address significant environmental problems. EPA then only developed criteria if sufficient and comprehensive data was available. EPA did not have a systematic process to obtain this data, where it was not available.

EPA had not developed criteria for the 19 priority pollutants as it had not received specific requests from its regional offices, the states, or the public to develop criteria for these pollutants. For 5 of these pollutants (beryllium, 2-chloroethylvinyl ether, methyl chloride, 1,1,1-trichloroethane, and phenanthrene), Office of Water officials stated that in 1980 it had published water quality criteria but subsequently withdrew the criteria because of questions concerning the soundness of the science that supported the criteria. EPA has not resolved the concerns nor reissued the criteria because the user community and potential stakeholders have not requested criteria for these pollutants.

EPA's plans to develop criteria for Methyl tertiary-butyl ether (MtBE) illustrate the reactive strategy EPA has embraced when determining which pollutants warrant criteria development. EPA did not have plans to develop criteria for this chemical until it was approached by the American Petroleum Institute in 1997. After representatives from the petroleum industry approached EPA and offered to

pay for the effort, EPA agreed to the proposal and is working on developing criteria.

MtBE, a nonpriority pollutant, is a chemical that has been used in gasoline since the late 1970s. In the Clean Air Act of 1990, Congress mandated the use of reformulated gasoline in areas of the country with the worst ozone or smog problems. MtBE is one of the additives used to make reformulated gasoline and is used in about 84 percent of reformulated gasoline supplies. MtBE is considered a potential human carcinogen and concerns have been raised about it contaminating drinking water. According to EPA's Toxics Release Inventory (TRI), more than 870,000 pounds of MtBE have been directly discharged into surface waters in the United States as far back as 1987. In 1996 and 1997 alone (the latest years for which data was available), more than 280,000 pounds of MtBE were discharged into surface waters. Had EPA used the TRI as a resource to help identify pollutants warranting criteria development, perhaps the need to develop water quality criteria for MtBE could have been identified long before the American Petroleum Institute approached EPA and offered to pay for the criteria development effort.

NO SYSTEMATIC PROCESS

EPA does not have a process to systematically use information from other environmental programs to identify pollutants of concern in the nation's waters. For example, EPA's TRI shows annual amounts of pollutants released from select industries. This information may be useful to identify new pollutants that warrant criteria development. The results of our review of EPA's 1997 TRI illustrate the importance of water quality criteria for pollutants. For example:

- EPA does not have water quality criteria for 203 of the 265 pollutants discharged into surface waters, of which 36 are either

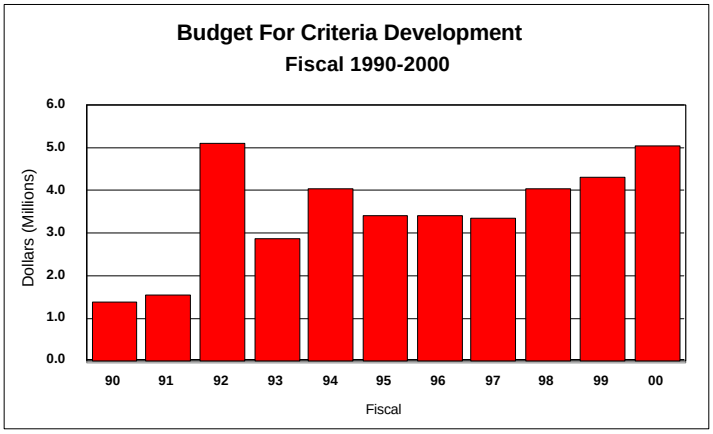
known, probable, possible or may reasonably be anticipated to be carcinogens.

- EPA's current list of priority pollutants represented less than one percent of total pounds discharged, and nine of these had no water quality criteria.

The TRI data also showed that a small number of pollutants are responsible for a large percentage of pounds discharged. The top 10 pollutants in terms of pounds discharged accounted for more than 98 percent of all discharges. EPA has published water quality criteria for five of these pollutants (see Exhibit 5).

COMPETING PRIORITIES CONTEND FOR LIMITED FUNDS

EPA officials stated that funding was a barrier to criteria development. As shown in the following chart, funds available for the development of water quality criteria ranged from $1.39 million in 1990 to $5.13 million in 2000.



Criteria development funding is used to develop priority and nonpriority pollutant criteria as well as other forms of criteria and related activities. In recent years, EPA has also focused on the development of criteria for nutrients, sediment quality guidelines, biocriteria, and revisions to its methodology for developing criteria protective of human health. Nutrients were cited in the 1996 report on the quality of the nation's waters as one of the leading causes of water quality problems. Development of toxic criteria and other types of criteria are important to achieve the goals of the Clean Water Act.

CONCLUSION

Water quality standards are essential to the foundation of water quality protection efforts. Expanding criteria coverage for pollutants found in surface waters, as well as updating and maintaining criteria to reflect new scientific information, is a fundamental component of this foundation. Without water quality criteria, there are no numeric limits on how much pollution can be found in state waters. EPA should develop a systemic process to examine other sources of data to determine which pollutants warrant criteria development. Because many states have limited ability to adopt water quality standards beyond those published by the federal government, it is essential that EPA lead the way in the development of comprehensive water quality criteria.

RECOMMENDATIONS

We recommend the Assistant Administrator for Water:

2-1. Develop a process to proactively obtain and use data generated by other program offices to help determine those toxic pollutants that warrant water quality criteria development and revise priorities or seek additional funding to develop such criteria.

2-2. Develop a process to determine which pollutants should be included on the priority pollutant list or develop an equivalent approach.

AGENCY COMMENTS AND OIG EVALUATION

EPA provided comments to clarify portions of the report, and we have incorporated these comments and modified the report as appropriate. The comments EPA provided can be found in Appendix I.

EPA generally agreed with recommendation 2-1 that a systematic approach is needed for identifying pollutants and prioritizing criteria development. EPA stated in their response that many elements of a systematic approach for criteria development are in place. EPA specifically mentioned a first meeting it held in August 2000 of a National Work Group on Water Quality Standards, and coordination with the Office of Prevention, Pesticides, and Toxic Substances (OPPTS) for information on the toxicity and bioaccumulation potential of chemicals that OPPTS is registering for commercial use.

EPA also provided an example of how it started an initiative to develop nutrient criteria because EPA's recent assessments of national water quality cited nutrients as one of the leading causes of water quality impairment in our Nation's rivers, lakes and estuaries.

We believe such steps are important in developing a risk-based approach for pollutant identification warranting criteria development. We also believe that had EPA held its first meeting of a National Work Group on Water Quality Standards in the past and coordinated with other programs and offices within EPA, in addition to OPPTS, it may have resulted in EPA identifying the need to develop water quality criteria for nutrients long before the large hypoxic zone in the Gulf of Mexico appeared and before the Pfiesteria-induced fish kills in the coastal waters of the East Coast were reported. Such a risk-based approach may have

also identified the need for water quality criteria for MtBE before it became an issue and before the American Petroleum Institute offered to pay for the criteria development effort themselves.

EPA stated that in several instances, it has adjusted or will adjust priorities for criteria development to reflect information on the environmental occurrence of pollutants including information from other offices. We agree that EPA's priorities should remain flexible in order to respond to emerging environmental concerns. We also believe that EPA needs to develop a structured process to systematically identify new and existing pollutants that pose a threat to human health and the environment before they become a problem. If EPA determines that data is insufficient to evaluate risk, the process should include procedures to acquire the data. Furthermore, a proactive process should anticipate criteria needed by the states and public, rather than waiting for specific requests from the EPA regions, states, and the public.

EPA's willingness to exercise its authority under the Clean Water Act meets the intent of our recommendation 2-2. EPA stated that there may be very limited environmental benefits from adding pollutants to the priority pollutant list, but also stated that it has the authority under other aspects of the Clean Water Act to require states and authorized tribes to adopt numeric criteria for any pollutant, regardless of whether the pollutant is on the priority pollutant list. EPA officials stated that they will exercise their authority as needed in the future to address state-adopted criteria for nonpriority pollutants.

CHAPTER 3
EPA LACKED INCENTIVE TO FINALIZE CONSULTATIONS AND APPROVE STATE STANDARDS

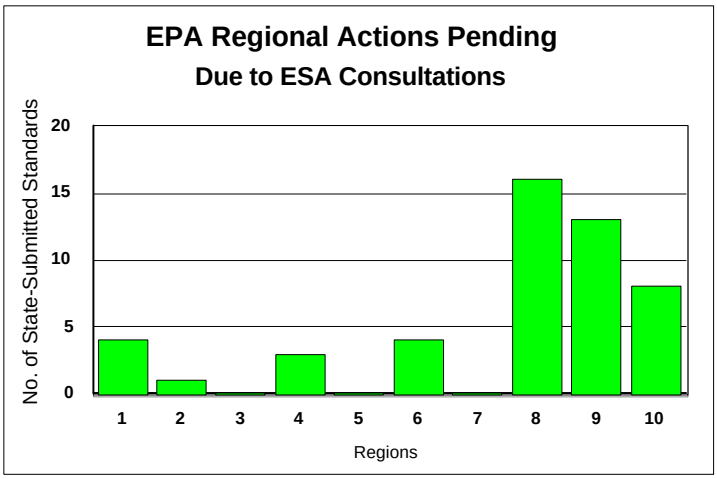
As of June 2000, there were 45 state water quality standards submissions, dating as far back as 1994, awaiting EPA action. The Clean Water Act provides EPA 60 days to approve and 90 days to disapprove state water quality standards. Until a recent court opinion, EPA did not have a strong incentive to finalize consultations or quickly approve outstanding state and tribal water quality standards because these standards became effective when adopted by the state. Therefore, EPA approval of state water quality standards had little or no direct environmental impact. EPA encouraged regional coordination with other federal agencies to satisfy the requirements of the Endangered Species Act. However, several regions did not complete biological evaluations necessary for these consultations. Incompatibilities between the Clean Water Act and Endangered Species Act also contributed to the long delays experienced by EPA in approving state water quality standards.

EPA'S APPROVAL HAD LITTLE ENVIRONMENTAL IMPACT

Until a court opinion in 1997 [*Alaska Clean Water Alliance v. Clark,* No. C96-1762R (W.D. Wash.)], EPA approval of state water quality standards had little or no direct environmental impact because state water quality standards became effective when adopted by the state. Therefore, EPA's approval of these standards was simply a regulatory requirement and oversight function. Because of this, EPA did not have a strong incentive to finalize consultations or quickly approve outstanding state water quality standards. The court ruled that state water quality standards would not become effective until EPA approved them. As a result, EPA revised its regulations and EPA's approval now has a real environmental impact on water quality and so the importance of timely approvals is critical.

BIOLOGICAL EVALUATIONS NOT COMPLETED

As of November 1999, there were 70 state water quality standards submissions, dating as far back as 1994, awaiting EPA approval. EPA took action on 25 of these state water quality standards between November 1999 and June 2000. Forty-nine of the 70 were pending due to Endangered Species Act consultations. Of these 49, biological evaluations had not been completed for 31. Some EPA regional offices contributed to delays by not finalizing biological evaluations needed for consultations. EPA's regional offices needed to prepare biological evaluations and consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) to ensure that state and tribal water quality standards were protective of listed species. As can be seen in the following chart, Regions 8, 9, and 10 accounted for most of the outstanding regional actions due to ESA consultations.



Regions 8, 9, and 10 also accounted for 28 of the 31 outstanding biological evaluations. Region 8 had not developed any biological evaluations since 1994 because of uncertainties regarding how to conduct a biological evaluation. Regions 9 and 10 attributed the lack of completed biological evaluations to limited staff resources. Region 8 is working with the U.S. Fish and Wildlife Service to develop regional guidance for developing biological

evaluations. Although Office of Water had not provided guidance on how to prepare these evaluations, other EPA regional offices, such as Region 4, have successfully developed biological evaluations and completed consultations with the Services. Further, the U.S. Fish and Wildlife Service provides training courses for federal agencies to use when developing these evaluations. In the past 3 years, only six EPA employees have attended this course - five from EPA headquarters in Washington, D.C. It is EPA's regional staff, however, and not EPA headquarters officials, who prepare these biological evaluations.

CONFLICTS BETWEEN THE ACTS ADDED TO THE DELAYS IN APPROVING STANDARDS

Incompatibilities between the Clean Water Act and Endangered Species Act contributed to EPA's delays in approving state water quality standards. First, the Clean Water Act requires EPA to develop water quality criteria protective of aquatic life. This language is very general in nature. The Endangered Species Act requires the Services to protect specific listed species. The Services are concerned that when developing criteria protective of aquatic life, EPA's standard test species may not be indicative of specific listed species.

To alleviate these concerns, EPA and the Department of Interior conducted joint studies to determine the sensitivity of endangered and threatened species to a few toxic pollutants. Results indicated that, generally, endangered fish are no more sensitive to pollutants than other fish; however, some mussels may be more sensitive than previously-tested species. As a result, EPA and the Services are prioritizing and expanding joint research and data gathering to ensure criteria protect endangered and threatened species.

Second, the timing requirements between the Clean Water Act and U.S. Fish and Wildlife Service regulations are incompatible. The Clean Water Act requires EPA to

approve state water quality standards in 60 days. U.S. Fish and Wildlife Service regulations provide the Services 135 days to form their opinion regarding the protectiveness of these same standards. Because EPA is reluctant to give final approval to these state water quality standards before the Services render their opinion, EPA may be out of compliance with the time limit specified in the Clean Water Act for approval. The draft Memorandum of Agreement published in 1999 between EPA and the Services addressed this issue and encouraged early involvement with the states when reviewing the water quality standards to avoid violating the time frame established in the Clean Water Act.

CONCLUSION

Lengthy delays caused by EPA in approving state water quality standards may have an unfavorable effect on the environment, damage the Agency's credibility, and expose EPA to lawsuits. EPA's final approval of state water quality standards is dependent upon the Service's concurrence. It is crucial that EPA and the Services find a way to ensure timely approval. EPA is reorganizing its headquarters staff to help address the backlog of outstanding state water quality standards and is conducting an internal assessment of the standards process to improve its effectiveness and efficiency.

RECOMMENDATIONS

We recommend the Assistant Administrator for Water:

3-1. Train applicable EPA employees in development of biological evaluations by sending at least one employee from each EPA regional office to the U.S. Fish and Wildlife course which offers guidance on how to develop biological evaluations.

3-2. Facilitate the sharing of knowledge among EPA regional employees by ensuring they share with their counterparts information on how to develop

biological evaluations and best practices in consulting with the Services.

3-3. Determine the feasibility of rotational opportunities between EPA and Services staff to better understand complexities when dealing with threatened and endangered species issues, assist in the development of biological evaluations, and improve the relationship between the agencies.

3-4. Use the results of EPA and Department of Interior toxicity tests for determining the protectiveness of EPA criteria on listed species.

3-5. Work together with the Services when developing future draft water quality criteria.

3-6. As set forth in the joint MOA between EPA and the Services, encourage collaborative processes with EPA regions, states and tribes, and the Services in conducting triennial reviews and standards revisions.

AGENCY COMMENTS AND OIG EVALUATION

EPA provided comments to clarify portions of the report, and we have incorporated these comments and modified the report as appropriate. The comments EPA provided can be found in Appendix I.

EPA agreed with the recommendations and recognized that as a result of the lawsuit [*Alaska Clean Water Alliance v. Clark*, No. C96-1762R (W.D. Wash)], the importance of timely approval of state-adopted water quality standards is critical. The actions that EPA will take will assist in ensuring timely approval of future state water quality standards submissions and meet the intent of our recommendations.

CHAPTER 4
EPA HAD NOT ISSUED NATIONAL GUIDANCE ON ANTIDEGRADATION IMPLEMENTATION PLANS

Twenty-five years after EPA first issued regulations requiring that states develop antidegradation policies and implementation plans, Office of Water has not issued guidance identifying what should be included in these plans. Antidegradation policies and plans are designed to protect high quality waters by preventing their deterioration. Office of Water had not issued national guidance because of other priorities. As a result, pollution prevention and detection controls for higher quality water are not in place across the nation.

LACK OF GUIDANCE CONTRIBUTED TO ABSENCE OF IMPLEMENTATION PLANS

Office of Water had not developed national guidance for states on developing antidegradation implementation plans due to the lower priority of the antidegradation requirements. As a result, Office of Water is uncertain of the components of an implementation plan. Thirty-five states have developed antidegradation plans, of which EPA regions have approved 30. Without national guidance these state plans lack consistency. Many regions and states felt national guidance was crucial because they were uncertain as to the information needed in an implementation plan.

In 1986, EPA drafted national guidance for high quality water to ensure consistent application of each state's antidegradation policy. The guidance was never finalized because of EPA's uncertainties regarding the components of an implementation plan. However, five EPA regional offices separately developed and provided their states guidance for antidegradation implementation and generally states in these regions had implementation plans.

National guidance is important because it would provide a baseline for regions, states, and authorized tribes to follow

in developing implementation plans. In addition, national guidance would help eliminate confusion and inconsistencies that may result from antidegradation implementation among states.

CONCLUSION

Without implementation plans, states may be giving away the quality of their waters without allowing the public to participate in the decision making process. It is imperative that states not concentrate solely on upgrading poor quality waters while allowing high quality waters to deteriorate due to inattention. EPA agreed that having national antidegradation implementation guidance is necessary to eliminate confusion and inconsistencies between regions and states. Because many states have not developed antidegradation implementation plans, it is essential that EPA develop the national guidance needed to ensure the deterioration of existing levels of good water quality is prevented.

RECOMMENDATIONS

We recommend the Assistant Administrator for Water:

4-1. Develop guidance on antidegradation implementation by using regional guidance as an aid when developing the guidance.

4-2. Recommend states report on how their waters meet requirements in the antidegradation policy.

AGENCY COMMENTS AND OIG EVALUATION

EPA provided comments to clarify portions of the report, and we have incorporated these comments and modified the report as appropriate. The comments EPA provided can be found in Appendix I.

We combined two recommendations from the draft report into one recommendation for the final report. EPA agreed with recommendation 4-1, but disagreed with recommendation 4-2 because neither the Clean Water Act nor EPA's existing regulations contain a reporting requirement. We therefore changed the language of the recommendation. We believe that it is important not only that states adopt an antidegradation policy and implementation plan, but report to EPA and the public on progress toward maintaining high quality waters. Simply adopting such antidegradation plans gives no assurance to the public that the spirit of the requirements is being achieved. Agency staff agreed that as a matter of good government, permittees should report how their discharges to receiving waters and other such activities meet the requirements in their antidegradation policy and will encourage such reporting.

EXHIBIT 1

SCOPE AND METHODOLOGY

We reviewed EPA program records to determine the extent of EPA's criteria coverage for pollutants. We compared the priority pollutants identified by the Clean Water Act to EPA's National Recommended Water Quality Criteria in order to ascertain EPA's criteria coverage for these pollutants. We reviewed EPA's 1980 water quality criteria for priority pollutants and subsequent revisions. We asked EPA to provide specific reasons why it does not have criteria for several priority pollutants. We also interviewed staff from EPA's Health and Ecological Criteria Division and flowcharted EPA's process for deriving water quality criteria. We reviewed the original priority pollutant list and subsequent deletions from the list in 1981. We also reviewed EPA's attempt to add a pollutant to the list in 1980 by examining the Federal Register notices for these actions.

We evaluated EPA's 1997 Toxics Release Inventory (TRI) to determine the extent of EPA's criteria coverage for pollutants discharged into surface waters of the United States. TRI is a national database that identifies facilities, chemicals manufactured and used, and the annual amounts of these chemicals released into surface waters, air, landfills, etc. We considered TRI's limitations when using the data. The database does not include all sources of releases and does not distinguish pollutants of higher toxicity from those of lower toxicity. We considered it as one source EPA could use for pollutant identification.

We also reviewed EPA's 1993 Toxic Weighting Factors for Pesticide Active Ingredients and Priority Pollutants to determine the relative toxicity for some of the pollutants reported in the TRI. Toxic weighting factors are values for pollutants that change to reflect differences based on water quality criteria and toxicity values. For example, the potential effect of a pound of zinc may be significantly different from that of a pound of lead.

We reviewed Office of Science and Technology's criteria development budget for the past 11 years and accomplishment reports of EPA's Health and Ecological Criteria Division for fiscal 1995-1999.

We interviewed staff from EPA's Water Quality Standards Branch and EPA staff in regional offices, and flowcharted the consultation process to determine why consultations required by the Endangered Species Act are causing long delays in EPA's approval of state water quality standards. We interviewed staff from the U.S. Fish and Wildlife Service to understand their perspective on why consultations with EPA were protracted.

We reviewed the Clean Water Act, federal regulations, and lawsuits to understand when state-adopted water quality standards became effective and how this would change due to recent litigation. We reviewed both the Clean Water Act and Endangered Species Act and analyzed the extent of incompatibilities between the Acts and determined how these incompatibilities can delay EPA approval of state-adopted water quality standards.

We interviewed staff from EPA's Water Quality Standards Branch and EPA staff in regional offices to determine why states were reluctant to develop implementation plans. We interviewed EPA staff in the regional offices to determine if they issued guidance to their states on how to develop implementation plans. We obtained and reviewed the regional guidance documents to identify whether EPA could use the regional guidance as an aid for developing national antidegradation guidance.

We also interviewed the Water Quality Standards Branch staff to identify why antidegradation has not been a program priority. We obtained and evaluated reviews of the antidegradation program conducted by both EPA and contractors in the past to identify if similar issues still remained.

EXHIBIT 2

PREVIOUS OIG WATER QUALITY STANDARDS REPORTS

1. *Missouri's Water Quality Standards and Monitoring*, E1HWF7-07-0023-8100080, March 31, 1998

2. *Colorado Water Quality Standards, Monitoring, and Reporting Program*, E1HWF8-07-0004-9100093, March 10, 1999

3. *Oregon's Water Quality Program*, E1HWF8-10-0024-9100119, March 31, 1999

4. *Region III Water Quality Standards, Monitoring, and Reporting*, E1HWF7-03-0160, March 31, 1999

5. *Ohio's Water Quality Program*, 99P00210, June 30, 1999

6. *New Jersey's Water Quality Monitoring Program*, 1999-1-00225, July 21, 1999

7. *Arkansas Water Quality Standards, Monitoring, and Reporting Program*, 1999-R6-0001321-100245, August 19, 1999

8. *Mississippi's Water Quality Standards, Monitoring and Reporting*, 1999-P00219, September 29, 1999

Exhibit 3

POLLUTANTS FOR WHICH EPA IS CURRENTLY DEVELOPING OR REVISING WATER QUALITY CRITERIA PROTECTIVE OF AQUATIC LIFE

1. Atrazine
2. Diazinon
3. Nonylphenol
4. Methyl tertiary-butyl ether
5. Manganese
6. Tributyl tin
7. Selenium
8. Pentachlorophenol
9. Cadmium
10. Silver
11. Copper

Exhibit 4

NINETEEN PRIORITY POLLUTANTS FOR WHICH EPA DOES NOT HAVE CURRENT NATIONAL RECOMMENDED WATER QUALITY CRITERIA

1. Beryllium
2. Chloroethane
3. 2-Chloroethylvinyl Ether
4. 1,1-Dichloroethane
5. Methyl Chloride
6. 1,1,1-Trichloroethane
7. 2-Nitrophenol
8. 4-Nitrophenol
9. 3-Methyl-4-Chlorophenol
10. Acenaphthylene
11. BenzoghiPerylene
12. Bis2-ChloroethoxyMethane
13. 4-Bromophenyl Phenyl Ether
14. 4-Chlorophenyl Phenyl Ether
15. 2,6-Dinitrotoluene
16. Di-n-Octyl Phthalate
17. Naphthalene
18. Phenanthrene
19. delta-BHC

Exhibit 5

TOP TEN POLLUTANTS IN TERMS OF POUNDS DISCHARGED ACCORDING TO EPA'S 1997 TOXICS RELEASE INVENTORY

	Pollutant	EPA Criteria
1.	Nitrate compounds	Yes
2.	Phosphoric acid*	No
3.	Ammonia	Yes
4.	Methanol	No
5.	Manganese and Manganese compounds	Yes
6.	Zinc (fume or dust) and zinc compounds	Yes
7.	Barium and barium compounds	Yes
8.	Ethylene glycol	No
9.	Sodium nitrate*	No
10.	Nitric acid*	No

* Nutrient guidance is being developed

APPENDIX I

AGENCY RESPONSE

September 26, 2000

MEMORANDUM

SUBJECT: Draft Report on EPA's National Water Quality Standards Program
Assignment No. 1999-001385

FROM: J. Charles Fox
Assistant Administrator for Water

TO: Connie Walton
Audit Manager

Attached is our response to your draft report on the Environmental Protection Agency's (EPA) Water Quality Standards Program. We appreciate the opportunity to respond to your draft recommendations before you finalize the report.

Although we agree with many of the findings and recommendations in your draft report, we also disagree with some of the conclusions and statements. In the attachment we have offered some clarifications and explanations to put your recommendations in context with other aspects of the Water Quality Standards Program that the draft report did not mention. In addition to responding to the specific recommendations contained in the draft report, we have also included comments on other sections of the draft report or have provided alternate language.

If you have any questions about the attached responses to the recommendations contained in the draft report, please contact me at 202-260-5700 or Betsy Southerland, Director of the Standards and Applied Science Division, at 202-260-3966.

Attachment

Office of Water response to the Office of the Inspector General's draft recommendations on EPA's Water Quality Standards Program

Recommendation 2-1. *Use data generated by other program offices to determine those toxic pollutants that warrant water quality criteria development and develop such criteria.*

Recommendation 2-2. *Develop a process to determine which pollutants should be included on the priority pollutant list or develop an equivalent approach.*

Generally, the Office of Water agrees with the thrust of these recommendations – to develop a systematic approach for setting criteria development priorities that is driven by environmental concerns, and that uses data generated by other programs. The Office of Water believes, however, that the Office of the Inspector General's recommendations are too narrowly focused on toxic pollutants. EPA is responsible for developing criteria for all types of pollutants under the Clean Water Act, including toxic, conventional, and non-conventional.

Many elements of such a systematic approach are already in place and in use. For example, on September 3, 1998, the Office of Water published for public comment the *Water Quality Criteria and Standards Plan--Priorities for the Future* (63 FR 47024). The criteria development priorities in the plan included initiatives to develop nutrient criteria and assessment methods to better protect aquatic life and human health, criteria for microbial pathogens to better protect human health during water recreation, and biocriteria to provide an improved basis for aquatic life protection, and to evaluate possible new initiatives for sedimentation, flow, and wildlife criteria. Each of these initiatives was designed to help EPA take a leadership role in resolving critical environmental problems. For example, the Office of Water included the initiative to develop nutrient criteria because EPA's recent assessments of national water quality cited nutrients (nitrogen and phosphorus) as one of the leading causes of water quality impairment in our Nation's rivers, lakes and estuaries. Nutrients were also implicated with the large hypoxic zone in the Gulf of Mexico, and Pfiesteria-induced fish kills and human health problems in the coastal waters of several East Coast States as well as events in the Gulf States. The Office of Water has been using the *Criteria and Standards Plan*, as well as the public comments that were received on it, to help establish our priorities for developing criteria. In the two years since the plan was published, many of the 134 line item activities (some of which have expanded since publication) have been completed or are underway (101 activities are completed or in progress). We will be conducting a close review of accomplishments under the plan and updating it as appropriate. Resources have been limited and the Office of Water made difficult choices to increase funding in

other priority areas such as non-point sources, addressing unmet tribal needs, and TMDLs. We will re-examine funding for water quality criteria as we develop program plans for FY 2001 and beyond.

In addition to the *Criteria and Standards Plan*, the Office of Water is undertaking other efforts that will result in more systematic priorities for criteria development. In August 2000, the Office of Science and Technology held the first meeting of a National Work Group on Water Quality Standards, supported through a cooperative agreement with the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA). One of the work group's main functions is to establish joint priorities between EPA and the States for future water quality criteria development. Additionally, on August 14, 1998 the Office of Water published the draft *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (63 FR 43755), which set forth EPA's proposed approach for developing new human health criteria, including criteria for priority toxic pollutants. In setting priorities for developing these criteria, EPA will take into account public comments on the methodology. We plan to publish the final methodology in the near future.

In several instances, the Office of Water has adjusted or will adjust priorities for criteria development to reflect information on the environmental occurrence of pollutants, including information from other offices. For example, the proposed human health methodology discussed above included environmental ranking factors such as TRI data for prioritizing criteria development. As another example, the Office of Water used environmental data including the National Sediment Inventory in setting priorities for development of sediment guidelines. In addition, the national study of contaminants in fish in lakes and reservoirs now underway will be used in setting priorities for criteria development. Furthermore, the Office of Water frequently coordinates with the Office of Prevention, Pesticides, and Toxic Substances (OPPTS) for information on the toxicity and bioaccumulation potential of chemicals that OPPTS is registering for commercial use.

In light of these and other ongoing efforts to take a leadership role in developing water quality criteria, the Office of Water does not believe that its approach can be characterized as "reactive," or that criteria development for toxic pollutants is being "hindered." Although there may be cases where the Office of Water's priority-setting process has favored development of, say, nutrient criteria, over developing aquatic life criteria for more toxic pollutants, the Office believes such priority setting is appropriate and necessary, and well-grounded in assessments of the relative environmental importance of these issues.

With regard to the priority pollutant list, the Office of Water believes there may be very limited environmental benefits from adding pollutants to the list. EPA has the authority to require States and authorized Tribes to adopt numeric criteria for any pollutant, regardless of whether the

pollutant is on the priority pollutant list. Under the CWA section 303(c)(4)(B), the Administrator can determine at any time that new or revised standards are necessary to protect public health and the environment. The Office of Water routinely assists the EPA Regions in reviewing State and Tribal water quality standards programs to identify missing or inadequate criteria for both non-priority pollutants and priority pollutants. When such deficiencies are identified, the Region recommends to the Administrator that she exercise her authority under CWA section 303(c)(4)(B) to find that new or revised standards are necessary. EPA has exercised this authority in the past and will continue to do so, as necessary, including findings to address numeric criteria for non-priority pollutants.

Recommendation 3-1. *Send at least one employee from each EPA Regional Office to the U.S. Fish and Wildlife course which offers guidance on how to develop biological evaluations.*

The Office of Water agrees with this recommendation. The Memorandum of Agreement (MOA) between EPA and the Services, when signed later this fall, commits all three agencies to increased cross-program training. There have been some examples of such training to date, but such efforts should be expanded. For example, the Office of Water frequently reserves space for Service personnel in the Water Quality Standards Academies, and the U.S. Fish and Wildlife recently held a training course which some EPA staff attended. Limited travel funds and limited slots in the U.S. Fish and Wildlife course, however, have made it difficult to send as many people as EPA would like. Cross-program training is a priority for the Office of Water and we are working with the U.S. Fish and Wildlife office to secure space in future courses. We are encouraging the EPA Regional Offices to make this a priority and to allocate travel funds for Water Quality Standards Regional personnel.

Recommendation 3-2. *Ensure that EPA Regions share with their counterparts information on how to develop biological evaluations and best practices in consulting with the Services.*

The Office of Water agrees with this recommendation. There are a number of efforts underway to ensure that information is freely shared among the Regions. The Office of Water collects final biological evaluations from the Regions to serve as a repository of information on what the Agency has said to date regarding specific chemicals and specific species. Headquarters is further consolidating and sorting the information contained in this repository to make the information more user friendly (e.g., collapsing by chemical and species). Information and analyses developed to support the national criteria consultation called for in the draft Memorandum of Agreement between EPA and the Services will assist individual Regional consultations as well. Also,

Headquarters has a staff person assigned to each Region to serve as a Regional liason. Among other things, Regional liasons keep their individual Region informed of new biological evaluations from other Regions that may help ongoing work in their Region. Regional liasons also help ensure that new information or approaches for streamlining consultation are communicated from one Region to another.

Recommendation 3-3. *Consider determining the feasibility of rotational opportunities between EPA and Services staff to better understand complexities when dealing with threatened and endangered species issues, assist in the development of biological evaluations, and improve the relationship between the agencies.*

Generally, the Office of Water agrees with this recommendation. Rotational opportunities between EPA and Services staff could be a part of the increased training specified for in the draft MOA. The Office of Water is currently focused on finalizing the MOA. Once the MOA is final, EPA can focus its resources on implementing the MOA, including increased training between the Agency and the Services.

Recommendation 3-4. *Where appropriate, use the results of the EPA and Department of Interior toxicity tests for determining the protectiveness of EPA criteria on listed species.*

Generally, the Office of Water agrees with this recommendation. Data from EPA and Department of the Interior laboratories have been and will continue to be used for such screening. This type of work has been done for mussels as well as for endangered finfish species. The Office of Water has also used data from the Department of the Interior and other sources in criteria development. Before using the results to modify criteria, however, all studies must go through the Agency's peer review processes to ensure scientific defensibility. The Office of Water must also determine how best to include consideration of threatened and endangered species in criteria derivation either by providing an adjustment similar to that provided for commercially or recreationally important species, by providing a site specific criteria modification methodology, or by some other mechanism. The planned national consultation on existing water quality criteria may provide a forum for discussing and resolving these issues with the Services.

Recommendation 3-5. *Encourage participation by the Services when developing future draft water quality criteria.*

The Office of Water agrees with this recommendation. This approach would help identify threatened and endangered species concerns early in the process. EPA's development of revised selenium criteria is a good example of how this coordination can work well when staff are available. The Services were invited to participate and became involved early in EPA's re-evaluation of its selenium criteria. The Services agreed to serve as advisors for the development of selenium criteria, have participated in the peer consultation workshop, have reviewed materials and data, and have accepted a non-voting position on the work group. This type of participation has occurred in the past with the Water Quality Criteria Guidelines Committee on which the Services also sat as advisors. For the Services to participate fully and regularly in criteria derivation and guideline development, the two Agencies will need to negotiate a process that addresses both Agencies' statutory and regulatory obligations and ensures consistency in the application of the guidelines, scientific process, and peer review requirements of EPA. EPA has initiated discussions with the Services to consult on EPA's 45 aquatic life criteria to ensure the criteria protect threatened and endangered species and their critical habitat. We have already reached agreement on a technical protocol for evaluating criteria. This consultation will be conducted pursuant to a Memorandum of Agreement the Agency and the Services are hoping to finalize this fall. Consultation on the criteria will include discussion of the underlying methodologies and science.

Recommendation 3-6. *As set forth in the joint MOA signed between EPA and the Services, encourage collaborative processes with EPA regions, states, and tribes, and the Services in conducting triennial review and standards revisions.*

The Office of Water agrees with this recommendation. The Office of Water hopes to sign a final MOA early this fall. To date, EPA has had difficulty obtaining participation from the Services' Field Offices in scoping sessions with the states early on in the triennial review. EPA Regional offices will continue to encourage such participation.

Recommendation 4-1. *Develop guidance on antidegradation implementation.*

The Office of Water agrees with this recommendation. The Office of Water has had an ongoing dialogue with stakeholders on antidegradation. This dialogue started with the Advance Notice of Proposed Rulemaking (ANPRM) that EPA published in 1998 and continued in the Total Maximum Daily Load (TMDL) rulemaking. We will work with the State/EPA National Work Group on Water Quality Standards to help determine what priority to assign to developing additional guidance on antidegradation.

Recommendation 4-2. *Use regional guidance as an aid when developing the implementation guidance.*

The Office of Water agrees with this recommendation. The Office of Water always uses existing Regional guidance, as well as State guidance, as an aid when developing new National guidance.

Recommendation 4-3. *Require states to report on how their waters meet requirements in the antidegradation policy.*

The Office of Water does not agree with this recommendation. Neither the Clean Water Act nor EPA's existing regulations contain such a reporting requirement. Furthermore, it is not clear how "waters" can "meet requirements in the antidegradation policy," since the policy governs State or Tribal decisions concerning whether certain activities should be allowed or not allowed to lower water quality, depending on specific circumstances. For example, a State or Tribe may decide to allow a lowering of water quality pursuant to the provisions of 40 CFR 131.12(a)(2) in the case of a proposed increased discharge to one "high quality water" but not in the case of another discharge in a different such water. Subsequent monitoring and assessment information for the two waters would show different levels of water quality, but in both cases the antidegradation policy would have been carried out properly. EPA would likely need to modify its regulations in order to implement this recommendation. It is not clear what the benefits of such a change would be, nor whether such a reporting requirement could be structured to provide meaningful information.

APPENDIX II

ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office
OIG	Office of Inspector General
Services	U.S. Fish and Wildlife Service and National Marine Fisheries Service
TRI	Toxics Release Inventory
OPPTS	Office of Prevention, Pesticides, and Toxic Substances

APPENDIX III

DISTRIBUTION

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