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Agency

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# WATER QUALITY CRITERIA AND STANDARDS

## NEWSLETTER

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### EPA PREPARES FOR CHANGE IN STANDARDS APPROVAL PROCESS

EPA is now preparing for a significant change in the way water quality standards are approved. The change, arising from a court action involving Alaska's water quality standards in 1997, will revise the way state and tribal standards become effective for use under the Clean Water Act. The change will take effect in the year 2000 after EPA proposes and finalizes a revision to its regulations.

Under EPA's current regulations (40 CFR part 131), any new or revised water quality standards become effective under the Act as soon as a state or tribe adopts them. The standards then remain in effect until the state or tribe revises them, or until EPA promulgates federal standards to correct any problems with them.

This approach will be changing within the next year. In July 1997, the U.S. District Court for the Western District of Washington issued an opinion which held that State water quality standards do not go into effect under the Act until approved by EPA (Alaska Clean Water Alliance v Clark; No. C96-1762R). In light of this opinion, EPA is now preparing to revise its regulations.

The new regulations that EPA has drafted specify that after the effective date of the new rule, any revisions to state or tribal water quality standards will generally not go into effect under the Clean Water Act until approved by EPA. The exception may be that new or revised state or tribal standards which are more stringent than the current applicable standards may be used for intrastate purposes without EPA approval.

Implementing the new regulations will pose challenges for both EPA, states, and tribes. For example, it will become more important than in the past for EPA to expedite its review and approval or disapproval of standards after states or tribes submit them, in order to avoid delays in implementation. Similarly, it will become more important for states and tribes to submit complete packages, including necessary documentation and supporting materials to assist EPA's review. Also, EPA will need to maintain publicly-accessible dockets in each EPA Regional

Office showing exactly which standards are applicable under the Clean Water Act after the regulation takes effect. EPA will be working closely with states and tribes in the coming months to set up procedures to improve the process for developing and approving standards, and making them accessible. Additionally, EPA will be working closely with several states where EPA has disapproved some existing standards provisions in order to remove, revise, or if necessary, replace those provisions with Federal standards as soon as possible.

Until EPA officially revises its regulations, we will follow the existing regulations in all states except Alaska. The existing regulations provide that a state or tribal water quality standard remains in effect, even though disapproved by EPA, until the state revises it or EPA promulgates a rule that supersedes the state or tribal standard.

EPA believes these changes will help make the water quality standards program more efficient, and will help to assure that standards are effective in restoring and maintaining water quality in the Nation's waters. We look forward to working with states, tribes, other federal agencies, and the public in making this happen. Current plans call for issuing the proposed changes to EPA regulations for public comment in the Federal Register by July 9, 1999. We would then finalize the changes, based on the public comments received, by April 1, 2000.

## **UPCOMING EVENTS**

### **WATER QUALITY STANDARDS ACADEMY**

Demand for the "Water Quality Standards Academy" remains at an all time high. The "Water Quality Standards Academy" is a highly structured 5-day training course on all aspects of the water quality standards and criteria program. The course is aimed at states, Indian tribes, environmental groups, municipalities, the academic community, industrial groups, federal agencies, and other interested parties. There is no registration fee to attend the course. Individuals must, however, pre-register.

In 1999, sessions have been held in Laurel, Maryland for the Fish and Wildlife Service and in San Francisco, California for Indian tribes. The last session for 1999 will be held:

July 26-30, 1999 - Washington, DC  
(Session aimed at the general public)

Information about future course offerings including dates, locations and registration information will appear on the Office of Science and Technology's Home Page at: [www.epa.gov/OST](http://www.epa.gov/OST). You may also contact EPA's contractor: Lara Wilson, Water Quality Standards Academy Coordinator, The Cadmus Group, Inc., at 703-931-998-6862 or on e-mail at [wqsa@cadmusgroup.com](mailto:wqsa@cadmusgroup.com) for more information.

## **LIST SERVER & WEBSITE NEWS**

### **NEWSLETTER LIST SERVER**

The Water Quality Criteria and Standards Newsletter is now available electronically. To subscribe to the WQC&S list server, send an e-mail message to [listserv@unixmail.rtpnc.epa.gov](mailto:listserv@unixmail.rtpnc.epa.gov) and type the following command in the body of the message: subscribe SASD-NEWS Firstname LastName (Example: subscribe SASD-NEWS Joan Smith). NOTE: The message subject should be blank.

To be removed from the list, send a message to [listserv@unixmail.rtpnc.epa.gov](mailto:listserv@unixmail.rtpnc.epa.gov) and type the following: unsubscribe SASD-NEWS. Contact: Micki Treacy at 202-260-7301 or [Treacy.Micki@epamail.epa.gov](mailto:Treacy.Micki@epamail.epa.gov) for more information.

### **WEBSITE FOR EPA TECHNICAL AND PUBLIC DOCUMENTS**

There is an EPA website that includes, among other things, the full text of more than 6,000 EPA technical and public documents. From this site, you can view the full text (including graphics) of a document on-line, print, and order copies of all EPA documents that are in the database. The site includes instructions for searching the database by title, EPA document number, keywords,

or phrases. The URL for the site is <http://www.epa.gov/ncepihom/>, and you can get to it from the EPA home page by clicking on "Publications."

## **WATER QUALITY STANDARDS BRANCH/SASD**

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## **NATIONAL WATER QUALITY STANDARDS DATA BASE**

**"Using the Internet, why can't I 'click' on the outline of a state in a map of the US, 'click' on a county, and then 'click' on a stream to find out its designated use?"**

This question has been posed, in one form or another, by everyone from an EPA Assistant Administrator to state environmental staff to industry employees. The Office of Water has committed to developing a data system that will enable EPA, states, Indian tribes, and the public to know what the designated uses are for the Nation's waters. To that end, since May 1998, the Water Quality Standards Branch in coordination with other EPA offices performed a requirements analysis, completed a logical and physical design, and developed a prototype for a national relational water quality standards data base (WQSDB). A commitment has also been made to work with states and others over the next two fiscal years to ensure that the system functions on the several levels required to meet the needs of all users.

The prototype database has developed a method, using the information from four states (CA, AZ, CO, RI), to accommodate the variety of state water quality standards (WQS) classification formats. The next step will be to obtain the State designated uses, in an electronic format (database, spreadsheet, text file). Concurrently, a strategy for "addressing", or attaching the state WQS information to a consistent national hydrographic framework is being developed. The USGS Reach Files is the framework being used. Reach File 3-Alpha (RF3a) is in a 1:100,000 scale, which results in 3.2 million stream segments for the US. Addressing state-delineated water bodies to the Reach Files enables the geographic analysis and portrayal (maps) of WQS data. The Office of Water has developed a Reach Indexing Tool, which facilitates locating streams and attaching data to the Reach Files, to assist states.

Additionally, a demonstration of a mapping application was produced as a "proof of concept." This demo was designed to show how the WQSDB can be integrated with supporting spatial data, including designated use information that has been addressed to RF3a, and accessed through the World Wide Web. The demonstration, using WQS information from Colorado, was successful; allowing a user to access a site on the Internet, 'click' to a specific water body, and determine its designated use.

Another effort is underway to develop a system that will enable the user to find out several pieces of water quality related information about the 'clicked' on water body. The system would be able to search several databases (e.g., STORET, PCS, 305(b), 303(d), Designated Uses). An example

of the type of query this system could accommodate would be, "Show the water bodies with municipal dischargers that have less than fishable/swimmable use designations." (Or with a nonpoint slant... "Show the water bodies without municipal dischargers that have less than fishable/swimmable use designations.") This system is called the Reach Address Database. By December 1998, the requirements analysis and database design documents should be completed. The goal for these systems is to make water quality standards information accessible to the widest possible audience, including making the system available over the Internet.

Both the data base effort and the addressing effort are underway. Phone calls to state WQS coordinators are being made to obtain electronic data. Phone calls to assess the interest level in addressing WQS data (including interest in training on the Reach Indexing Tool) will begin in the Fall of 1999. Future issues of the Newsletter will provide progress reports on these efforts. We are open to comments and suggestions, and would be particularly interested in working with others who have already started efforts along these lines. Please feel free to call or write Jeff Bryan, (202) 260-4934, bryan.jeffrey@epamail.epa.gov with your ideas.

## **ANNUAL MEETING ON WATER QUALITY STANDARDS CRITERIA AND WATER QUALITY-BASED PERMITTING, INCLUDING IMPLEMENTATION**

The Annual Meeting on Water Quality Standards, Water Quality Criteria and Water Quality-Based Permitting, including Implementation was held August 24-27, 1998 in Philadelphia, PA. The primary focus of the meeting was the "Criteria and Standards Plan". The Plan was released in June 1998. Four hundred twenty-three individuals attended the meeting including representatives from states, municipalities, Indian tribes, EPA, other federal agencies, environmental groups, industry, the academic community and interested citizens.

Charles Fox, Assistant Administrator for Water, delivered the keynote address. The meeting format consisted of plenary sessions, questions and answer sessions held at the beginning of each day, small breakout sessions, interactive round table discussions, updates on several high visibility national programs (Revisions to Human Health Criteria, Nutrient Abatement Strategy, BEACH Program, Water Quality Standards Database for U. S. Surface Waters, and TMDLs), afternoon poster sessions and a demonstration of the BASINS software.

## **TRAINING OPPORTUNITY**

"INTRODUCTION TO WATER QUALITY", is a course developed by the Natural Resources Conservation Service (NRCS), U. S. Department of Agriculture (DOA). The course is aimed at U. S. DOA personnel and their partners. This is an introductory level training course. The course consists of twelve modules and is designed for self-study delivery. One module focuses on the water quality standards and criteria program. Water quality standards are the cornerstone of state and Indian tribal water quality management programs. The modules are primarily delivered by reading text and completing reinforcement activities to ensure that the participant has an opportunity to interact with presented instruction. Three modules have video tapes that

instruct or introduce the modules. The training program requires approximately 20 hours of concentrated study to complete.

Registration for federal and non-federal employees is via the Internet. Following registration, students will complete a pretest on the Internet. If the pretest is not completed, the participant will not be registered. A score of 80% or above on the pretest qualifies the participant for a Certificate of Competency. If the participant scored 80% or above, the participant has a basic understanding of the material covered in the training program and the individual will not be registered for the course. A pretest score below 80% will initiate the distribution of the instructional materials to the participant.

Upon completion of the participant's study, the posttest must be completed by the date given to the participant at the time of pretesting. The Internet address to access the posttest will be provided with the instructional materials. A posttest score of 70% or greater must be achieved for a Certificate of Completion.

Participants will have three months from the day they register and complete the pretest until they must take the posttest. It is recommended that participants do their study away from the office in a place that avoids work distractions.

All federal, state and district employees, tribal representatives and those involved in nonpoint pollution abatement/mitigation or control activities to achieve water quality may benefit from the course.

The website for the NRCS, National Employee Development Center's (NEDC) home page is: <http://www.ftw.nrcs.usda.gov/nedc/homepage.html>

On the NEDC homepage click on the "Introduction to Water Quality" training program to receive program information and begin registration.

Note: Registration and testing may be accomplished at any location with access to the Internet (a local college/university or local library for those employees who do not have access to the Internet at their work site or home).

Contact Margaret Sears of the NRCS for more information. She can be reached at: [msears@ftw.nrcs.usda.gov](mailto:msears@ftw.nrcs.usda.gov)

## **EPA ANNOUNCES THE AVAILABILITY OF A VIDEO**

The EPA has produced a video "TMDLs and Water Quality Standards". The purpose of the video is to provide information on TMDLs (Total Maximum Daily Loads) and the role TMDLs play in implementing a state's water quality standards. Water quality standards are the cornerstone of a state's water quality management program. TMDLs and the TMDL

development process are integral parts of a State's water quality management program. The relationship between TMDLs and water quality standards covers a wide area and includes such things as how TMDLs are authorized, their importance in the water quality-based approach to pollution control and how they are developed. The video also discusses the important role played by States, EPA and the public in the development of TMDLs. The 22 minute video can be obtained on loan for a period of 30 days from the:

U. S. EPA  
Water Resource Center  
401 M Street, SW ( Mail Code RC4100)  
Washington, D. C. 20460  
202-260-7786

The video is in the public domain and it may be duplicated. The EPA order number is: EPA-823-V-00-001.

### **ADVANCE NOTICE OF PROPOSED RULEMAKING**

On July 7, 1998, the U.S. Environmental Protection Agency published an Advance Notice of Proposed Rulemaking on the Water Quality Standards Regulation (40 CFR 131). This initiative, both in its development and its publication in the Federal Register provided the basis for a structured national discourse on the future of the water quality standards program. Beginning with the distribution of the draft ANPRM in March 1996, the water quality standards program has been engaged in unprecedented public involvement. In addition to soliciting comments on the draft ANPRM, EPA worked closely with stakeholders in developing the final ANPRM. Since its publication, EPA co-hosted three public meetings with the Water Environment Federation (WEF) focused on key issues in the ANPRM. The three meetings were held August 27-28, 1998 in Philadelphia, September 24-25, 1998 in Phoenix and October 20-21, 1998 in Chicago. EPA expects that public comments will be better developed as a result of the public meetings. The 180 day public comment period ended January 4, 1999.

During the public meetings, nationally recognized resource experts led discussions on core issues outlined in the ANPRM. These expert panels included representatives from States and Tribes, environmental groups, industries, and municipalities. Members of the public were encouraged to participate in the discussions and ask questions of the panelists and each other. Meeting attendees also discussed and debated specific topics in more detail during small breakout sessions. The breakout sessions discussed five main topics:

- Refined Designated Uses
- Antidegradation
- Water Quality Criteria
- Independent Application
- Mixing Zones

A total of 421 individuals attended these meetings, representing 9 stakeholder groups. Ninety-eight percent of the attendees felt that the Agency's objective of promoting discourse among the stakeholders was fulfilled. Ninety-eight percent of the attendees also felt that attending the meeting would help them to prepare their comments on the ANPRM during the public comment period.

EPA is intending to use the results of these public meeting discussions and ensuing public comments to craft changes to the regulation, policy and guidance that will ensure the water quality standards program protects the nation's waters as envisioned in the Clean Water Act, establishes requirements that are necessary to attain and maintain healthy and sustainable ecosystems, and is flexible enough for states and tribes to protect water quality and at the same time avoid costly requirements that have little environmental benefit. Contact: Jennifer Wigal at (202) 260-5177 or [wigal.jennifer@epamail.epa.gov](mailto:wigal.jennifer@epamail.epa.gov).

**RISK ASSESSMENT AND MANAGEMENT BRANCH/SASD**  
**THOMAS ARMITAGE**  
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#### **EPA's FISH CONTAMINATION PROGRAM UPDATE**

EPA's Fish Contamination Program (FCP) provides technical assistance to states, Indian tribes and others on matters related to persistent bioaccumulative toxics in fish and wildlife and associated potential health risks to consumers. Since 1992, the FCP has worked with state and tribal agencies in an effort to establish a national consistency in the approaches, methods, and protocols for assessing contaminants in fish and wildlife for the purpose of developing and managing fish consumption advisories. Through this program, EPA publishes guidance documents, develops and manages national databases, holds national forums, conferences and training workshops, provides grants for advisory development, conducts special studies, develops outreach materials, and assists in the issuance of advisories.

Since 1992, the FCP has published and updated the four volume set of guidance documents titled *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories*. Used together, these four volumes provide an approach for developing risk-based, scientifically sound, cost effective fish consumption advisories. Over the past eight years, the number of states using the EPA recommended risk-based approach has increased from 10 to approximately 40. FCP continues to work with the remaining 10 or so states in order to achieve the goal of national consistency in the approach to establishing fish consumption advisories. This national consistency goal is an Action Item included in the *Clean Water Action Plan: Restoring and Protecting America's Water*, announced by President Clinton in February 1998. A major premise of the Plan is that informed citizens and officials can make better decisions with clear, accurate, and timely information. The use of the EPA guidance for establishing fish consumption advisories will result in scientifically defensible, protective advice for all citizens.



Beginning in 1993, the FCP began publishing *The National Listing of Fish and Wildlife Advisories (NLFWA)*. This database includes all available information describing state-, tribal-, and federally issued fish consumption advisories in the United States for the 50 states, the District of Columbia, and four U.S. territories and has been expanded to include the 12 Canadian provinces and territories. The NLFWA contains information provided to EPA by the states, tribes, and Canada as of December 1997. This includes advisories issued by the Great Lakes Indian Fish and Wildlife Commission for several Native American tribes in Michigan, Minnesota, and Wisconsin. The number of advisories in the U.S. rose by 125 in 1997 to a total of 2,299, a 5% increase over 1996. The number of water bodies under advisory represents 16.5% of the Nation's total lake acres and 8.2% of the Nation's total river miles. The number of individual advisories includes advisories issued by twelve states and the District of Columbia which cover all lakes and/or rivers within their boundaries. In addition, 100% of the Great Lakes waters and their connecting waters and a large portion of the Nation's coastal waters are also under advisory. The total number of advisories in the U.S. increased for three major contaminants (mercury, dioxin, and DDT). The NLFWA is updated annually. Beginning in 1996, the U.S. EPA contacted health officials in Canada in an effort to identify fish consumption advisories in effect. The number of Canadian advisories rose by 26 in 1997 to a total of 2,625, less than a 1% increase over 1996. All of the current Canadian fish advisories have resulted from contamination from one or more of the following five pollutants: mercury, PCBs, dioxins/furans, toxaphene, and mirex. Of the 2,572 advisories, 94% resulted from mercury contamination in fish tissues. In addition, 86% were issued by the provinces of Ontario and Quebec. Two province-wide advisories for mercury are in effect for New Brunswick and Nova Scotia.

In addition to the development of national guidance and database management, the FCP organizes national conferences on chemicals in the environment, and sponsors the *Annual State/Tribal/Federal Forum on Contaminants in Fish*, which is attended by representatives from all 50 states, 30-40 tribes, several federal agencies, and various environmental and industry groups. The next *Forum* will be held in September 1999 in Washington, DC.

The FCP is also involved with the conduct of special studies. During 1997-98, the FCP conducted one of the largest site-specific fish contamination studies ever undertaken by EPA. Fish, shellfish, and marine plants were collected from the Cook Inlet area of Alaska to determine if oil and gas activities were impacting the quality of the food supply for four native subsistence villages living around Cook Inlet. The study will provide the information needed to characterize health risks associated with exposure to contaminants detected in fish and wildlife harvested from Cook Inlet by members of four native Alaskan subsistence villages who are dependent on marine resources as a source of dietary food items. The study design, methods and protocols are based on the FCP guidance series titled *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories*. This human health risk assessment is part of a larger OW effort to characterize human health risks from pollutants associated with Offshore and Coastal Oil and Gas Industry practices. A final report will be issued in the Spring 1999.

The FCP is also involved with the development and dissemination of outreach materials. In collaboration with the Agency for Toxic Substances and Disease Registry (ATSDR), the FCP wrote to health care professionals nationwide to emphasize the need to be aware of, and to ensure the public is aware of, the health consequences that can result in those populations who consume contaminated noncommercial fish (i.e., fish caught through sport or subsistence fishing). This effort is part of the President's *Clean Water Action Plan: Restoring and Protecting America's Water*. This Plan provides a blueprint for a new cooperative approach to identify and solve pollution problems and to inform citizens and officials about the quality of water and the safety of the fish and drinking water that come from them, as well as the beaches that surround them. The premise of the Action Plan is to ensure that citizens and officials can make informed and better decisions with clear, accurate, and timely information. Attached to the letters to health care providers were copies of the brochure, *Should I Eat the Fish I Catch?*, developed by ATSDR and the FCP. The brochure was developed as part of the Action Plan and is available in three languages (English, Spanish, and Hmong). The three versions of the brochure have been designed to provide information to consumers about how to reduce their exposure to the contaminants found in the fish they eat.

For more information concerning the National Fish Contamination Program or for copies of the above described materials, contact Jeffrey Bigler, National Program Coordinator, Phone (202-260-1305) FAX (202-260-9830) e-mail: [bigler.jeff@epamail.epa.gov](mailto:bigler.jeff@epamail.epa.gov) or write: U.S. Environmental Protection Agency, Fish Contamination Program, Maildrop 4305, 401 M Street SW, Washington, DC 20460.

## **EPA BEGINS NATIONAL STUDY OF CHEMICAL RESIDUES IN LAKE FISH TISSUE 1999 - 2003**

### **Study Background**

In 1987, the EPA Office of Water conducted a national screening-level investigation (U.S. EPA, 1992, *National Study of Chemical Residues in Fish*) to determine the prevalence of selected bioaccumulative pollutants in fish, and to correlate elevated fish tissue contaminant levels with pollutant sources. Game fish and bottom-dwelling species were collected from 314 locations thought to be influenced by various point and nonpoint sources, and the fish tissue samples were analyzed to determine levels of selected contaminants. A list of 60 target analytes was developed for the study, including dioxins and furans, PCBs, pesticides and herbicides, mercury, and several other organic compounds. Results of the 1987 study indicated that target analytes were present in fish tissue at many of the sampling sites, and some of the contaminants occurred at levels posing potential human health risks.

The Office of Water has initiated work on a new four year national study of chemical residues in fish tissue, designed to expand the scope of the 1987 study. The new study is based on random stratified sampling and will provide screening level data on fish tissue contaminants in lakes and reservoirs throughout the country.

## Objectives of This Study

The objective for the new *National Study of Chemical Residues in Lake Fish Tissue* is: to estimate the national distribution of the mean levels of selected persistent bioaccumulative toxic chemical residues in fish tissue from lakes and reservoirs of the continental United States. In so doing, the study will provide data to answer important questions concerning the national and regional occurrence of fish tissue contamination.

- ▶ What is the national extent of selected chemical contaminants in fish in lakes of the continental United States (excluding the Great Lakes)?
- ▶ What chemical residues are found in fish from lakes located in agricultural and non-agricultural areas of the United States?
- ▶ Are contaminant levels in fish high enough to warrant further investigation?

## General Approach

This study expands the scope of the 1987 study (U.S. EPA 1992) which focused on chemical residues in fish tissue near point source discharges. The new study will:

- ▶ provide information on the national distribution of selected PBT residues in game fish and bottom-dwelling fish in lakes and reservoirs of the continental United States (excluding the Great Lakes),
- ▶ include lakes and reservoirs selected according to a probability design,
- ▶ involve the collection of fish from those randomly-selected lakes and reservoirs over a four year survey period,
- ▶ will not be used to set fish consumption advisories. However, States and Native American Tribes may choose to initiate a detailed fish study in a particular lake based on the screening contaminant concentrations provided by the national study, and
- ▶ include the analysis of fish tissue for a set of PBT chemicals selected from both the Agency's multi-media candidate PBT list of 451 chemicals as well as a list of 130 chemicals from several contemporary fish and bioaccumulation studies.

Lakes and reservoirs are the focus here rather than other water body types because:

- ▶ they accumulate detectable levels of contaminants,
- ▶ they provide important sport fisheries nationwide,

- ▶ they offer other recreational (non-fishing) access and opportunities, and
- ▶ they occur in agricultural, urban, and less-developed areas, so that associations with each primary land use may be determined.
- ▶ fish consumption advisories have been issued for 16.5% of the Nation's total lake acres (plus 100% of the Great Lakes), compared to 8.2% of the Nation's total river miles.

### **Target Population**

A list of lakes and reservoirs randomly selected for sampling were sent to the states and tribes in March 1999. They were asked to identify any sites that should be eliminated from consideration and to volunteer to conduct the sampling and mail the fish to EPA's analytical laboratory. Sampling will be conducted in August through October 1999, 2000, 2001, and 2002. Results will be released as soon as QA/QC is completed. A final report is scheduled for 2003. For further information contact Jane Farris at (202) 260-8897 or [farris.jane@epamail.epa.gov](mailto:farris.jane@epamail.epa.gov).

### **HEALTH AND ECOLOGICAL CRITERIA DIVISION**

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### **NATIONAL NUTRIENT STRATEGY**

The Health and Ecological Criteria Division (HECD) has the lead in developing and implementing the National Strategy for the Development of Regional Nutrient Criteria. The Strategy was published in the Federal Register on June 25, 1998. The Strategy presents the approach the Agency will follow in developing nutrient information and working with states and Indian tribes to adopt nutrient criteria as part of state water quality standards. The strategy also presents overenrichment assessment tools and recognizes current capabilities for conducting these assessments at the regional watershed and water body levels. The major focus of this strategy is the development of water body-type technical guidance and region-specific nutrient criteria by the year 2000. Once water body-type guidance and nutrient criteria are established, EPA will assist states and Indian tribes in adopting numerical nutrient criteria into water quality standards by the end of 2003. The major elements of this strategy include:

- Use of a regional and water body-type approach for the development of nutrient water quality criteria.
- Development of water body-type technical guidance documents (*i.e.*, documents for streams and rivers; lakes and reservoirs; estuaries and coastal waters; and wetlands) that will serve as "user manuals" for assessing trophic state and developing region-specific nutrient criteria to control overenrichment.

- Establishment of an EPA National Nutrient Team with Regional Nutrient Coordinators to develop regional databases and to promote State and Indian tribal involvement.
- Development by EPA of nutrient water quality criteria guidance in the form of numerical regional target ranges, which EPA expects states and Indian tribes to use in implementing state management programs to reduce overenrichment in surface waters, *i.e.*, through the development of water quality criteria, standards, NPDES permit limits, and total maximum daily loads (TMDLs).
- Monitoring and evaluation of the effectiveness of nutrient management programs as they are implemented.

EPA believes the development of water body-type guidance and regional nutrient criteria can only be successfully accomplished with the cooperation and contributions of EPA Regional Offices, states, Indian tribes, and other expert parties. EPA Regions have formed regional nutrient teams which draw on the talents and knowledge of states, Indian tribes, universities and other interested/concerned parties within each EPA Region. states and Indian tribes specifically are being asked to provide information on nutrient levels in their surface waters to help provide information essential for identifying reference conditions (minimally impacted waters) and developing regional nutrient criteria. For further information, contact Bob Cantilli at (202) 260-5546 or [cantilli.robert@epamail.epa.gov](mailto:cantilli.robert@epamail.epa.gov).

## **ARSENIC IN FISH**

During FY97/FY98, HECD analyzed the possible exposures to inorganic arsenic from consumption of contaminated fish and contaminated water. Exposure estimates were prepared for average and 99th percentile consumers of fish and shellfish as well as for the EPA default occasional fish consumer. The exposure data were utilized in responding to a request from the state of Alaska to utilize the arsenic MCL as a standard for surface waters rather than the ambient water criterion.

In FY98, HECD utilized the published analytical data for total and inorganic arsenic that had been collected for the exposure report to determine mean, median and 95 percentile concentrations in marine fish, freshwater fish and shellfish. Mean concentrations were greater than median concentrations indicating that the averages were influenced by a few samples at the high end of the distribution curve. Frequency distribution histograms were prepared for total and inorganic arsenic in marine fish and shellfish and total arsenic in freshwater fish. There were very few data on inorganic arsenic concentrations in freshwater fish. The fish/shellfish data were presented at both the Society of Toxicology Meeting in Seattle, Washington and the Third International Conference of Arsenic in San Diego, California. For further information contact Joyce Donohue at (202) 260-1318 or [donohue.joyce@epamail.epa.gov](mailto:donohue.joyce@epamail.epa.gov).

## AMBIENT WATER QUALITY CRITERIA METHODOLOGY REVISIONS

On August 14, 1998, EPA published in the *Federal Register* draft revisions to the "Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health" for public comment pursuant to Section 304(a)(1) of the Clean Water Act (CWA). When finalized, these revisions will supersede the existing **"Guidelines and Methodology Used in the Preparation of Health Effect Assessment Chapters of the Consent Decree Water Criteria Documents"** ("1980 AWQC National Guidelines"), published by EPA in November 1980. There are three separate products available: 1) A *Federal Register* Notice, which presents the entire Methodology; 2) a Technical Support Document, which provides greater detail on the scientific approaches; and 3) a package of three individual example criteria documents. The public comment period closed on December 14, 1998. EPA will conduct a public stakeholders meeting to solicit additional input on the draft revisions. The Methodology will be peer reviewed as an entire package, however, most of the component procedures already have undergone separate peer reviews.

States and Indian tribes may use the revised methodology to develop water quality standards. Other affected parties include municipal and federal regulatory authorities, industry trade associations, regulated industry, and environmental groups. The revisions reflect the latest scientific knowledge and advances that have occurred during the past 18 years in such key areas as cancer and noncancer assessments, exposure assessments, and bioaccumulation in fish. They include risk assessments based on data and scientific judgments on the relationship between pollutant concentrations and human health effects. This guidance will substantially enhance science policy guidance for setting water quality criteria by incorporating these advances and, thus, increase the scientific defensibility of the recommended criteria. The revised methodology will also provide more flexibility for decision-making at the state, indian tribal and EPA Regional level. EPA is promoting greater involvement by states and tribes in making risk assessment decisions and in adapting criteria to local conditions. These revisions also support EPA's partnerships initiative since states and indian tribes will assist in selecting future chemicals for criteria development or revision.

EPA has developed guidance on assessing noncarcinogenic effects of chemicals and deriving RfDs. The Ambient Water Quality Criteria (AWQC) methodology revisions recommend consideration of these guidance issues, including integrating reproductive/ developmental, immunotoxicity, and neurotoxicity data into the calculation. EPA also recommends the use of quantitative dose-response modeling for the derivation of RfDs. For cancer risk assessments, more sophisticated methods to comprehensively determine the likely mechanism that causes human carcinogenicity are being recommended. This approach follows EPA's 1996 proposed revised cancer guidelines. Changes in the area of exposure assessment include encouraging states and Indian tribes to use local studies on fish consumption, in addition to providing default fish consumption values for the general population, recreational fishers and subsistence fishers. The methodology revisions specifically recommend that States consider highly exposed populations that may be at greater risk due to increased consumption of fish for nutritional needs

or because of cultural traditions. EPA will also take into account other sources of exposure when setting criteria to ensure that an individual's total exposure does not exceed that threshold level. The new methodology also places greater emphasis on bioaccumulation factors (BAFs) compared to the 1980 Guidelines for estimating potential human exposure to contaminants via the consumption of contaminated fish and shellfish, since they reflect the accumulation of chemicals by aquatic organisms from all surrounding media (water, food, sediment). For further information, contact Denis Borum at (202) 260-8996 or [borum.denis@epamail.epa.gov](mailto:borum.denis@epamail.epa.gov).

#### **FINAL WATER QUALITY CRITERIA DOCUMENT DEVELOPED FOR TRIBUTYLTIN (TBT)**

A final water quality criteria document for tributyltin (TBT) was prepared and distributed on December 1, 1998. This TBT criteria document summarizes the adverse effects of TBT to both freshwater and saltwater aquatic life. It provides recommended numeric criteria for both acute and chronic exposure conditions. This criteria document was proposed for public comment through a Federal Register notice which was published on August 7, 1997. The final criteria have been developed after consideration of the public comments and the comments from a six member external peer review panel. For further information, contact Frank Gostomski at (202) 260-1321 or [gostomski.frank@epamail.epa.gov](mailto:gostomski.frank@epamail.epa.gov).

#### **DRAFT WATER QUALITY DOCUMENTS DEVELOPED FOR ATRAZINE, DIAZINON AND NONYLPHENOL**

Draft water quality criteria documents for atrazine, diazinon, and nonylphenol were issued December 31, 1998. These new criteria documents summarize the adverse effects of these three chemicals to both freshwater and saltwater aquatic life. Numeric criteria recommendations are provided for both acute and chronic exposure conditions. These three new criteria documents have been peer reviewed and will be finalized by the end of 1999. For further information, contact Frank Gostomski at (202) 260-1321 or [gostomski.frank@epamail.epa.gov](mailto:gostomski.frank@epamail.epa.gov).

#### **SALTWATER DISSOLVED OXYGEN CRITERIA DOCUMENT DEVELOPED FOR EAST COAST**

A draft water quality criteria document summarizing the dissolved oxygen requirements for East Coast species of saltwater aquatic life has been developed. This criteria document provides numeric recommendations for both acute and chronic conditions and is applicable to saltwater species existing from Cape Cod to Cape Hatteras. The draft criteria document is being peer reviewed and is expected to be published in final form by November 30, 1999. For further information, contact Erik Winchester at (202) 260-6107 or [winchester.erik@epamail.epa.gov](mailto:winchester.erik@epamail.epa.gov).

## **PROPOSED RULE REVISING HUMAN HEALTH CRITERIA FOR PCBs IN NATIONAL TOXIC RULE STATES**

In 1992, EPA promulgated the National Toxics Rule (NTR) establishing numeric water quality criteria for toxic pollutants in fourteen States and jurisdictions to protect human health and aquatic life. Among the criteria promulgated were human health criteria for PCBs. General Electric Company (GE) and the American Forest and Paper Association, Inc. challenged, among other things, the human health water quality criteria for PCBs promulgated in the NTR. When the NTR was promulgated, human health criteria for PCBs were calculated using the cancer potency factor entered in the Agency's Integrated Risk Information System (IRIS). The Agency recently reassessed the cancer potency of PCBs, and issued a final report, *PCBs: Cancer Dose-Response Assessment and Applications to Environmental Mixtures*. The Agency now adopts an approach that distinguishes among PCB mixtures by using information on environmental mixtures and different exposure pathways.

Pursuant to the "Partial Settlement Agreement" with GE, EPA agreed that within 18 months of the issuance of the final cancer reassessment, the Agency would propose a revision to the NTR human health criteria for PCBs, or publish a Federal Register notice explaining why it was not revising the NTR criteria. Based on the reassessment, the Agency proposed revisions on April 2, 1998 to the human health criteria using a cancer potency factor considered protective of children and adults who drink surface water and consume fish from water contaminated with PCBs. For further information, contact Cindy Roberts at (202) 260-2787 or [roberts.cynthia@epamail.epa.gov](mailto:roberts.cynthia@epamail.epa.gov).

## **RECOMMENDED WATER QUALITY CRITERIA COMPILATION**

A compilation of recommended water quality criteria and was published in the *Federal Register* on December 10, 1998. The compilation is a summary table containing recommended water quality criteria for protection of human health and aquatic life for approximately 150 pollutants. These water quality criteria are the Agency's current recommendations, developed pursuant to Section 304(a) of the Clean Water Act, and reflect the latest scientific knowledge. For further information, contact Cindy Roberts at (202) 260-2787 or [roberts.cynthia@epamail.epa.gov](mailto:roberts.cynthia@epamail.epa.gov).

## **EXPEDITED DEVELOPMENT OF TECHNICAL GUIDANCE DOCUMENTS FOR BIOLOGICAL CRITERIA**

Lakes and Reservoir Biological Criteria The lakes and reservoirs document was finalized this past August (EPA 841-B-98-002). EPA is coordinating for distribution of the document to the States. EPA is beginning plans for training, workshops, and other outreach and communication activities.

Estuaries and Near Coastal Waters The estuarine and near coastal waters document underwent peer review in FY98. Training and communication activities have been initiated in FY 1999,

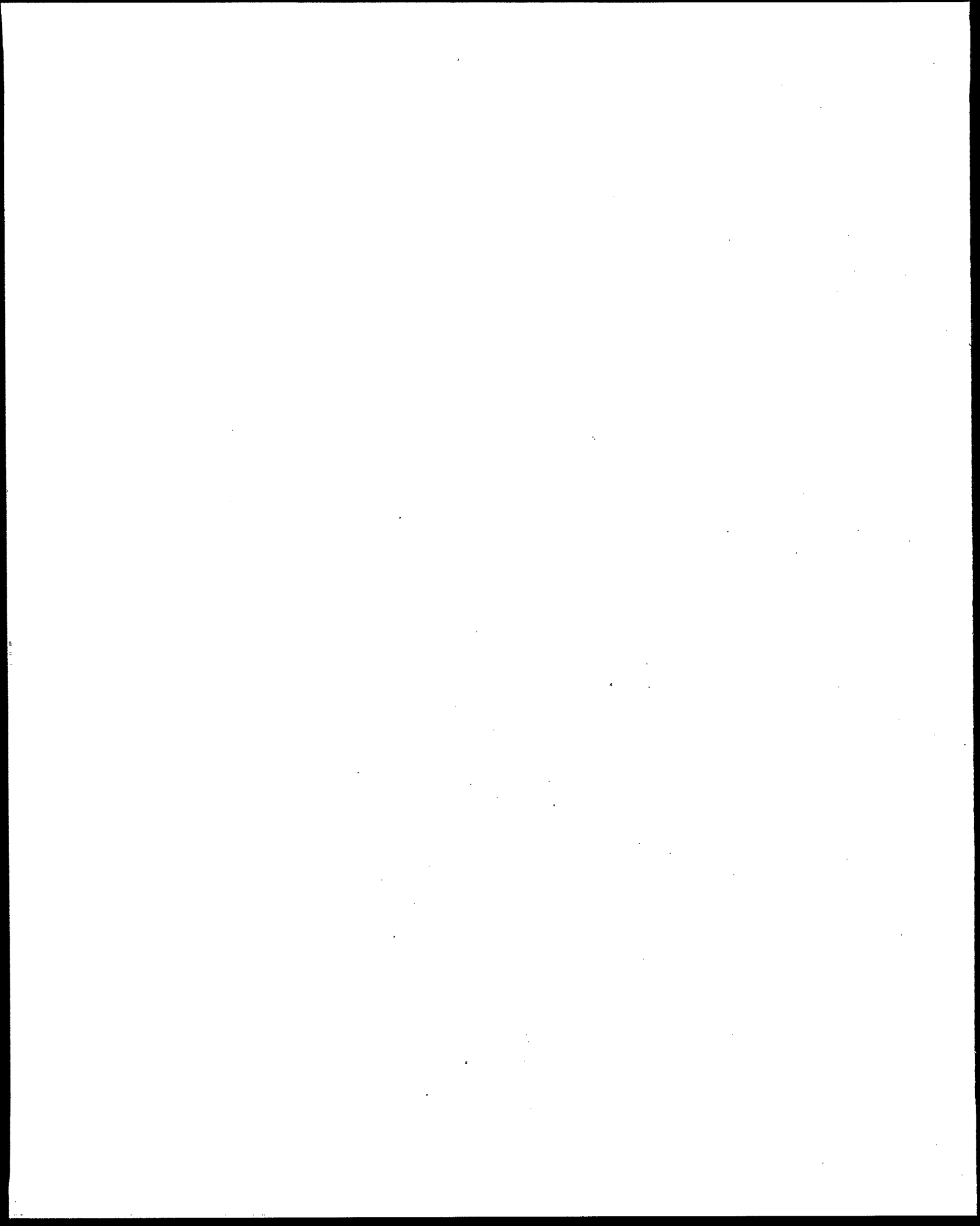


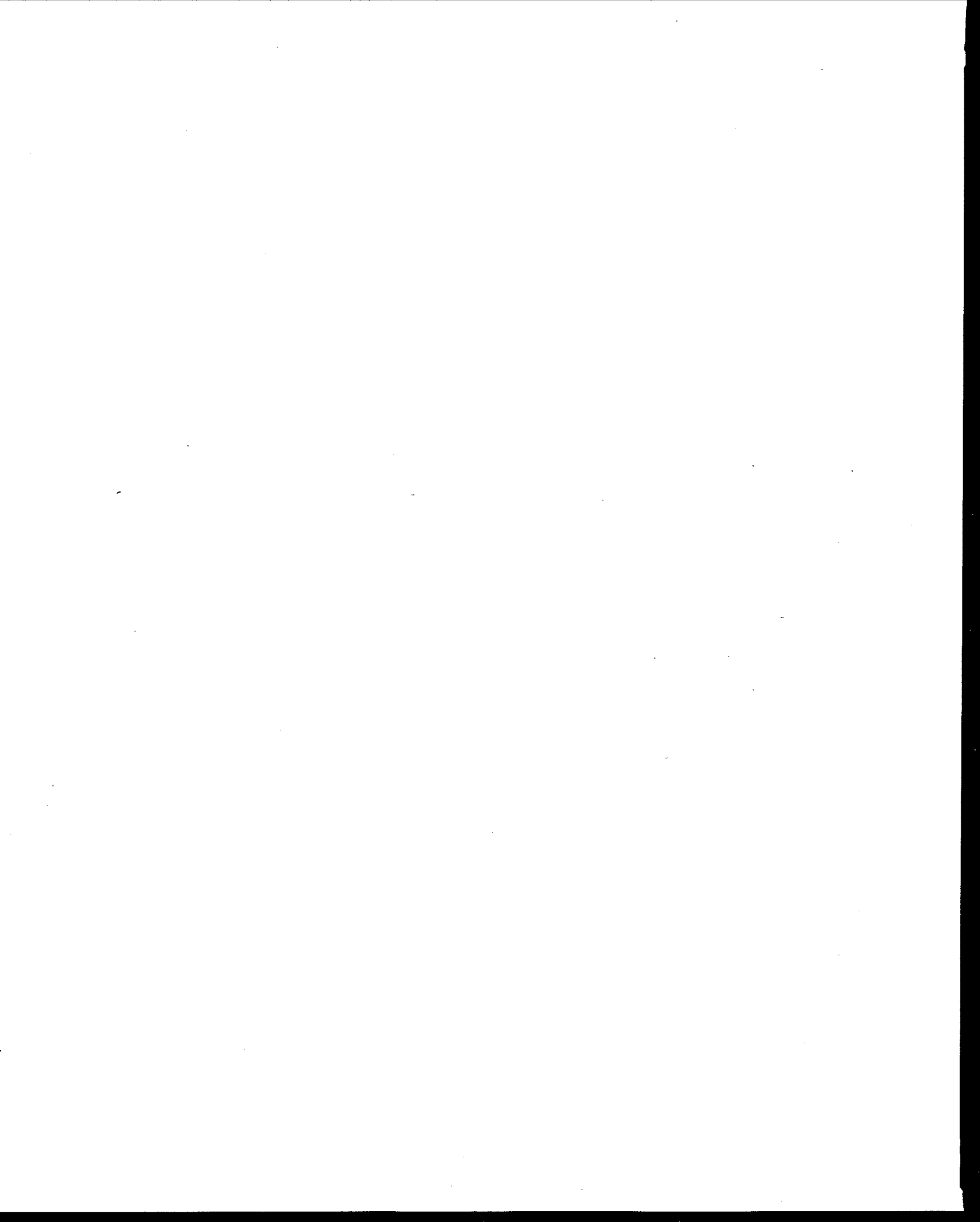
including linkage with the National Estuary Program.

Wetlands A wetlands biological assessment and criteria workgroup, Biological Assessment of Wetlands Workgroup (BAWWG), was formed in 1997. The BAWWG participants include a "core component" (EPA, other federal agencies, states) and outside technical experts. Fact sheets about the workgroup and other aspects of wetlands biological assessments have been developed and are available from EPA's Office of Wetlands at (202) 260-7166. Scoping the technical issues and developing a plan and schedule for development of technical guidance on wetlands biological assessment methods and criteria is underway.

### **INCREASED TECHNICAL ASSISTANCE TO STATES AND TRIBES TO DEVELOP BIOLOGICAL CRITERIA**

In FY 98 the biological criteria program provided funding to eight EPA regions which had completed their five year Work Plans for technical assistance or those that had established a plan to develop an EPA/state/tribal biological criteria workgroup. The goal is to provide technical assistance to the States for biological criteria development and implementation and to work more closely with each EPA region to address critical technical and policy issues. In this way HECD hopes to realize improved national program support and a nationally consistent effort to address issues that cut across regions. HECD also hopes to work more closely with the region/state biological assessment and criteria workgroups to leverage additional resources, provide targeted training. These efforts are also intended to address standards program priorities for triennial review (e.g. development of tiered aquatic life use classification, development and adoption of biological criteria) and to support pilot projects with regions and state to develop and demonstrate application of biological criteria. For further information, contact Susan K. Jackson at (202) 260-1800 or [jackson.susank@epamail.epa.gov](mailto:jackson.susank@epamail.epa.gov).







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