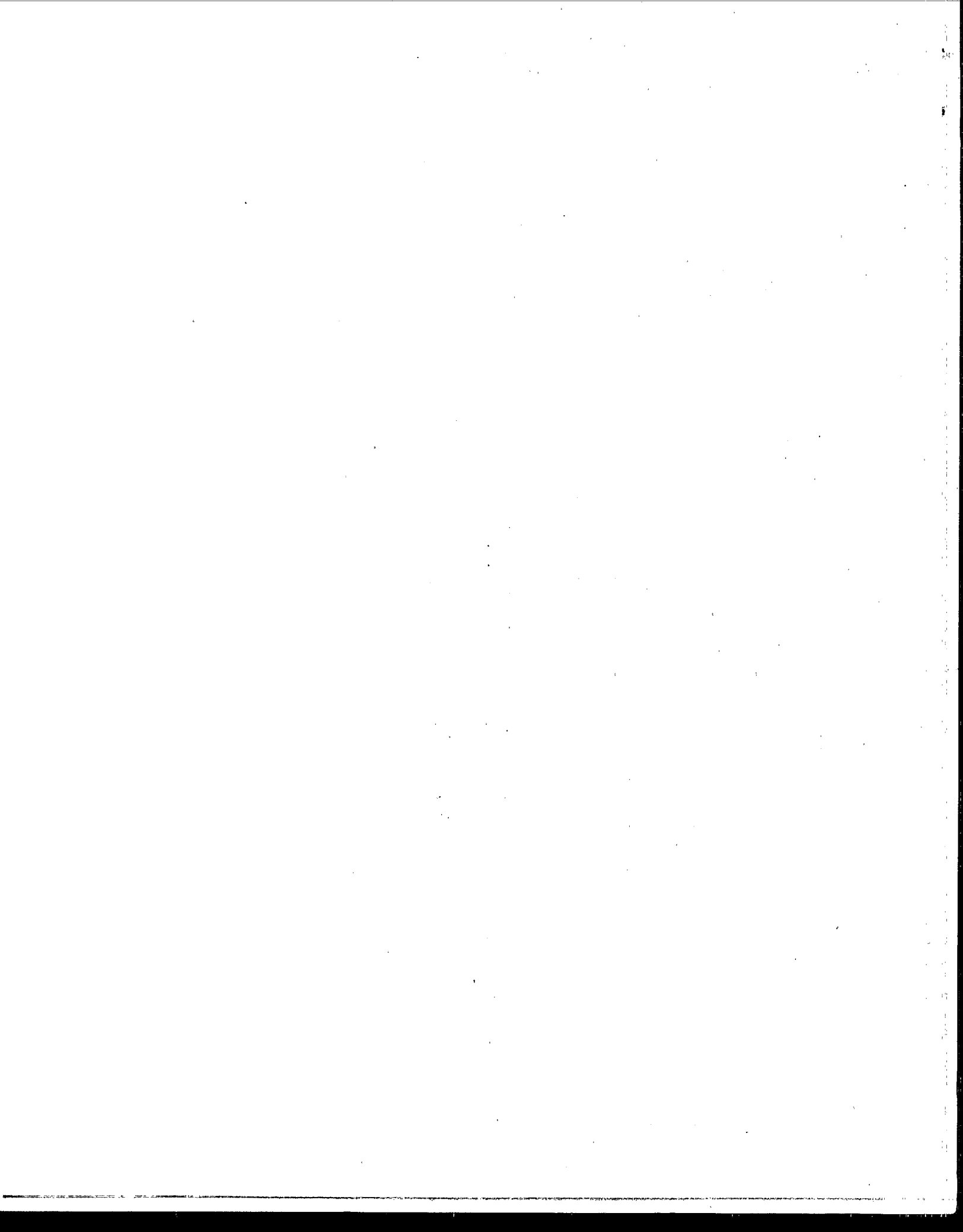




STATUS REPORT:

State Compliance with
CWA Section 303(c)(2)(B)
as of February 4, 1990





EXECUTIVE SUMMARY

INTRODUCTION

This report focuses on State efforts to comply with Clean Water Act (CWA) Section 303(c)(2)(B), which requires adoption of water quality standards for priority pollutants. The report identifies the States that are compliant as of February 4, 1990, summarizes the status of State actions to adopt standards for priority pollutants, and briefly outlines EPA's plans to federally promulgate standards for noncompliant States.

METHOD

In preparing this report, EPA evaluated State compliance with the requirements of CWA Section 303(c)(2)(B). EPA defines full compliance as State adoption and EPA approval of water quality standards effective under State law and consistent with one of three options including, at a minimum, appropriate human health and aquatic life criteria for all priority pollutants which can reasonably be expected to interfere with designated uses. EPA also compiled information on ongoing/completed State actions to adopt water quality standards for priority pollutants. For example, EPA identified the priority pollutants for which State criteria are adopted or expected in four use categories: (1) fresh water aquatic life, (2) marine aquatic life, (3) human health, and (4) other uses. Pollutants for which criteria are adopted or expected for only a limited area were included.

FINDINGS IN BRIEF

Substantial progress has been achieved since 1986 in establishing numerical water quality criteria for priority pollutants. For freshwater aquatic life uses, the average number of toxics with criteria adopted has tripled from 10 per State (in April 1986) to 30 per State (in February 1990). Adoption of expected criteria would further increase this average to 41 per State. For human health, the number of priority pollutants with criteria now averages 35 per State, and would nearly double to 67 per State if expected criteria are adopted.

Despite the substantial progress which has been achieved, most States are not yet in full compliance with CWA Section 303(c)(2)(B). As of February 4, 1990, six of the fifty-seven States and Territories were fully compliant. However, most of the States and Territories not in full compliance are in the process of revising their standards to achieve compliance. These actions are in varying stages of development (e.g., some States have submitted completed actions to EPA for review and approval/disapproval, other States are still in the initial stages). By September 30, 1990 (the end of the federal fiscal year) EPA projects that 42 States will be in full compliance.

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I - INTRODUCTION

One of the nation's most serious environmental/public health problems is the presence of toxic pollutants in surface waters. Amendments to the Clean Water Act (CWA) adopted in 1987 recognized this problem and set forth ambitious goals for State/EPA control of toxic pollutants. The Act's requirements place emphasis on controlling the CWA Section 307(a) toxic pollutants¹.

The principal objective of this report is to characterize State efforts to adopt numerical water quality criteria for CWA Section 307(a) pollutants². Such efforts are required by CWA Section 303(c)(2)(B) (see Appendix 1), which was added as part of the CWA amendments of 1987. The information presented in this report is current as of February 4, 1990. Since many States are still in the process of addressing this requirement, the information should be considered a "snap shot" of ongoing State activities. This report updates and replaces the report "State Numerical Water Quality Criteria for Toxics as of August, 1989." In preparing this report, emphasis has been placed on:

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1. The CWA Section 307(a) list contains 65 compounds and families of compounds, which potentially include thousands of specific compounds. EPA has identified 126 priority pollutants (see list in Appendix 2) from this larger group which it is using to represent the Section 307(a) list for regulatory purposes.
 2. For purposes of this report, the terms "toxics," "priority pollutants," and "307(a) pollutants" are used interchangeably and mean the list of 126 priority pollutants listed at Appendix A to 40 CFR Part 423.

- (1) preparing a preliminary assessment of State compliance with the requirements of CWA Section 303(c)(2)(B), and
- (2) characterizing the status of all criteria "expected" to be adopted during the current review cycle.

This report provides information about the current status of State compliance with CWA Section 303(c)(2)(B) requirements. For most States, such compliance was required by February 4, 1990. For States that were close to completing a triennial review at the time the 1987 CWA amendments were passed, such compliance may not be required until September 30, 1990.

Because a number of States have failed to fully satisfy the requirements of CWA Section 303(c)(2)(B) (as of February 4, 1990), EPA is developing a proposed rule to Federally promulgate State criteria for toxic pollutants in surface waters. The proposed rulemaking would federally promulgate criteria for each State that fails to achieve full compliance³ with CWA Section 303(c)(2)(B). This report presents EPA's preliminary assessment of the States that are noncompliant (as of February 4, 1990) and subject to inclusion in the federal rule.

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3. EPA defines full compliance with CWA Section 303(c)(2)(B) as State adoption and EPA approval, pursuant to 40 CFR 131, of WQS effective under State law and consistent with one of the three options described in the December 1988 toxics guidance document including appropriate human health and aquatic life criteria for all priority pollutants which can reasonably be expected to interfere with designated uses. At a minimum, such pollutants include those associated with CWA Section 304(1) short list waters, but may include other priority pollutants based on an analysis of available data at the time of the triennial review.

At present, it is expected that this federal proposed rule would include criteria for all toxics for which EPA has issued CWA Section 304(a) criteria guidance. Criteria would be promulgated as necessary to protect designated uses. It is expected that criteria for carcinogens would be proposed at a 10^{-6} incremental cancer risk level. EPA would update, as appropriate, the criteria recommendations for human health to reflect the most recent reference dose levels and cancer potency factors formally established by the Agency.

The proposed rule will not include criteria for any priority pollutants for which an acceptable array of State criteria have already been adopted by the State. For example, a State has established fully acceptable aquatic life criteria for all priority pollutants for which EPA has issued CWA Section 304(a) criteria guidance, but has not established any human health criteria for priority pollutants. In this case EPA would not promulgate any aquatic life criteria, but would promulgate, for appropriate water uses, the Agency's CWA Section 304(a) human health recommendations.

Any State that comes into compliance during the regulation development process will be removed from the proposal. Even after the final rulemaking is completed, EPA will withdraw the portion of the rule applicable to a State which adopts criteria to achieve compliance with the statute.

In December 1988, EPA issued final guidance intended to help States meet the Section 303(c)(2)(B) requirements. This guidance

discusses three options available to States for complying with this requirement. The three options available are as follows:

- OPTION 1: Adopt Statewide numeric water quality standards for all Section 307(a) toxic pollutants for which EPA has issued CWA Section 304(a) criteria guidance regardless of whether the pollutants are known to be present;
- OPTION 2: Adopt specific numeric water quality standards for Section 307(a) toxic pollutants (for which EPA has issued CWA Section 304(a) guidance) as necessary to support designated uses where such pollutants could reasonably be expected to interfere with designated uses;
- OPTION 3: Adopt a procedure to be applied to a narrative water quality criterion. This procedure shall be used by the State in calculating derived numeric criteria, which shall be used for all purposes of water quality criteria under Section 303(c) of the CWA. Such criteria need to be developed for Section 307(a) toxic pollutants, as necessary to support designated uses, where these pollutants could reasonably be expected to interfere with designated uses.

EPA believes that the CWA requirement can be met by any of the above options (or a combination). For a more detailed discussion of the above options, refer to EPA's final guidance on implementing CWA Section 303(c)(2)(B). This report will present the status of State efforts under all three options.

II - METHOD

In preparing this report, EPA: (1) developed a preliminary assessment of State compliance with the requirements of CWA Section 303(c)(2)(B), and (2) compiled information on the priority pollutants in each State for which numeric criteria are adopted or expected.

Compliance Determinations

In making compliance determinations, as discussed in Chapter I, EPA evaluated whether each State fully complied with the requirements of CWA Section 303(c)(2)(B). EPA defines full compliance with CWA Section 303(c)(2)(B) as State adoption and EPA approval, pursuant to 40 CFR 131, of water quality standards effective under State law and consistent with one of the three options described in the December 1988 toxics guidance document including, at a minimum, appropriate human health and aquatic life criteria for all priority pollutants which can reasonably be expected to interfere with designated uses.

EPA notes that the total numbers of pollutants with State criteria for each use was not used as a basis for evaluating compliance. Such totals were developed to represent the array of State criteria adopted/expected to date.

Compilation of Information on Standards for Toxics

Information was compiled for each of four use categories:

- Fresh water aquatic life.

- Marine aquatic life.
- Human health (water consumption or fish consumption or both).
- Other uses.

Names of pollutants and sequence of pollutants were taken from the list published in the Code of Federal Regulations (see 40 CFR 423.17(d)(1) - Appendix A). Only the pollutants on the list of 126 priority pollutants were included.

"Expected" criteria were defined as those criteria which EPA projects will be adopted in the current round of standards revisions (most are scheduled for completion in FY 1990). In many cases, expected criteria are included in either proposed revisions or in draft revisions. In other cases, criteria were judged by EPA to be expected (e.g., because the pollutant has been identified on the State's 304(1) short list).

Other assumptions included the following:

- o In counting the number of pollutants with criteria adopted/expected, pollutants for which criteria are adopted/expected for only a limited area were included. This means that not all pollutants credited to a State are regulated Statewide. For example, if a criterion was adopted for only one waterbody, it was counted. Or, where a State adopted human health criteria for a different set of pollutants for marine waters than for fresh waters, one combined list of pollutants with criteria was developed and

counted.

- o Where a generic pollutant name was used in a criterion (e.g., endosulfan, PCBs), it was assumed (where the State standards were not clear) that the criterion was for a total measurement of all isomers and metabolites of that pollutant, and the State was credited with establishing criteria for all isomers and metabolites included on the list of 126 priority pollutants. For example, where "endosulfan" was listed, it was often assumed, consistent with EPA Section 304(a) criteria guidance, that the State adopted a criterion for a total measurement of endosulfan including alpha-endosulfan, beta-endosulfan, and endosulfan sulfate, each of which is a priority pollutant. Therefore, the totals reflected in this report may not accurately represent the number of criteria each State adopted, but do represent the total number of priority pollutants 'covered' with State criteria.
- o Human health criteria were considered to include MCLs, EPA 304(a) recommendations, or other health-based criteria approved by EPA.

III - NATIONAL SUMMARY OF CRITERIA ADOPTED/EXPECTED

What is EPA's Current Assessment of Compliance with CWA Section 303(c)(2)(B)?

Full Compliance

Of the fifty-seven States and Territories, a total of six were preliminarily judged by EPA to be in full compliance¹ with CWA Section 303(c)(2)(B) as of February 4, 1990. Table 1 summarizes the status of each State by indicating: (1) whether the State was in full compliance as of February 4, 1990, (2) whether the deficiency was related to criteria to support aquatic life, human health, or both, (3) the number of toxics with numeric criteria adopted for freshwater aquatic life and human health, and (4) whether EPA expects the State to achieve compliance during FY 1990 (a prediction by EPA based on current schedules and other available information). Unless the deficiencies in their toxics criteria are corrected, those States listed as non-compliant will be included in the proposed rulemaking to Federally promulgate State criteria for toxics. EPA anticipates that as many as 42 of the 57 States and Territories may achieve full compliance during FY 1990.

1. See discussion of compliance and EPA's plan to federally promulgate toxics criteria on pp. 4 - 5.

Table 1

Status of Compliance with CWA Section 303(c)(2)(B)
as of February 4, 1990

State	Fully Compliant on 2/4/90?	Deficiency	No. Toxics w/ Crit. Adopted FW AQ.	HH	Compliance Expected by 9/30/90?
Alabama	NO	AQ & HH (1a)	29	16	NO
Alaska	NO	HH (2)	32	108	YES
Arizona	NO	AQ & HH	26	26	NO
Arkansas	NO	AQ & HH	26	0	NO
California	NO	AQ & HH	18	19	NO
Colorado	NO	AQ & HH (1a)	64	61	NO
Connecticut	NO	AQ & HH	0	0	YES
Delaware	NO	AQ & HH (1a)	34	92	YES
Florida	NO	AQ & HH	43	43	YES
Georgia	NO	AQ & HH (1a)	30	90	NO
Hawaii	NO	AQ & HH (1b)	75	77	YES
Idaho	NO	AQ & HH	0	15	NO
Illinois	(3) NO	AQ & HH (1c)	12	0	YES
Indiana	NO	AQ & HH (1a)	32	103	YES
Iowa	NO	AQ & HH	10	11	YES
Kansas	NO	AQ & HH	21	0	YES
Kentucky	NO	AQ & HH	21	6	YES
Louisiana	NO	AQ & HH (1a)	44	46	NO
Maine	(3) NO	AQ & HH (1a)	32	108	YES
Maryland	NO	AQ & HH	13	14	YES
Massachusetts	NO	AQ & HH	0	0	YES
Michigan	(3) NO	AQ & HH (1a)	0	0	YES
Minnesota	NO	AQ & HH	4	0	YES
Mississippi	NO	AQ & HH	1	9	YES
Missouri	NO	HH	39	70	YES
Montana	YES	N/A	32	108	YES
Nebraska	NO	HH (1b)	103	36	YES
Nevada	NO	AQ & HH	35	30	NO
New Hampshire	NO	AQ & HH	0	0	YES
New Jersey	NO	AQ & HH	19	8	YES
New Mexico	NO	AQ	0	7	YES
New York	NO	AQ & HH	49	43	YES
North Carolina	(3) NO	AQ & HH (1a)	27	35	NO
North Dakota	NO	AQ & HH	31	15	YES
Ohio	NO	AQ & HH (1a)	74	105	YES
Oklahoma	YES	N/A	32	20	YES
Oregon	YES	N/A	105	100	YES
Pennsylvania	(3) NO	AQ & HH (1a)	95	107	YES
Rhode Island	(3) NO	HH	32	0	YES
South Carolina	NO	AQ & HH	0	0	NO
South Dakota	NO	AQ & HH (1a, 2)	32	108	YES
Tennessee	NO	AQ & HH	0	10	NO
Texas	NO	HH	30	0	YES
Utah	NO	AQ & HH	31	10	YES
Vermont	NO	AQ & HH	0	0	YES
Virginia	NO	AQ & HH	41	13	NO
Washington	NO	HH	31	0	NO
West Virginia	NO	AQ & HH (1a)	68	63	YES
Wisconsin	YES	N/A	25	100	YES
Wyoming	NO	AQ & HH	0	0	YES
American Samoa	NO	AQ & HH	0	0	YES
N. Mariana Islands	NO	HH	31	0	YES
Dist. of Columbia	NO	HH	123	110	NO
Guam	YES	N/A	32	108	YES
Puerto Rico	NO	AQ & HH	12	8	YES
Tr. Territories	NO	HH	37	0	YES
Virgin Islands	YES	N/A	0	0	YES

TOTALS

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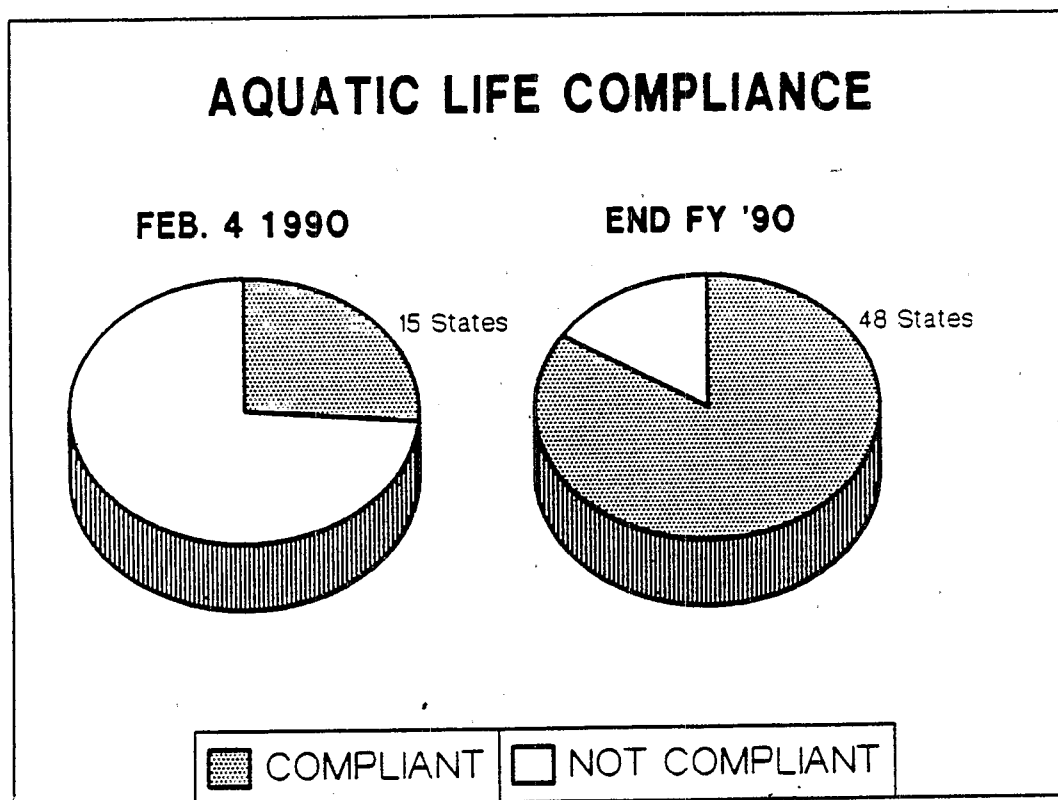
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NOTES: (1) The State has adopted criteria or a translator and such standards either: (a) have not yet been fully approved, (b) have not been submitted to EPA, or (c) were approved after 2/4/90. (2) The State has adopted all EPA criteria by reference but is not in compliance (e.g., because a risk level was not specified in the standards). (3) The State has adopted an option 3 translator procedure.

Aquatic Life Uses

As shown in Figure 1, 15 of the 57 States and Territories are judged by EPA to be in compliance (as of February 4, 1990) with the requirements of CWA Section 303(c)(2)(B) for aquatic life uses. An additional 33 States are expected to achieve compliance by the end of FY 1990. For States not currently in compliance, EPA has initiated development of a proposed rulemaking to establish appropriate federal water quality standards.

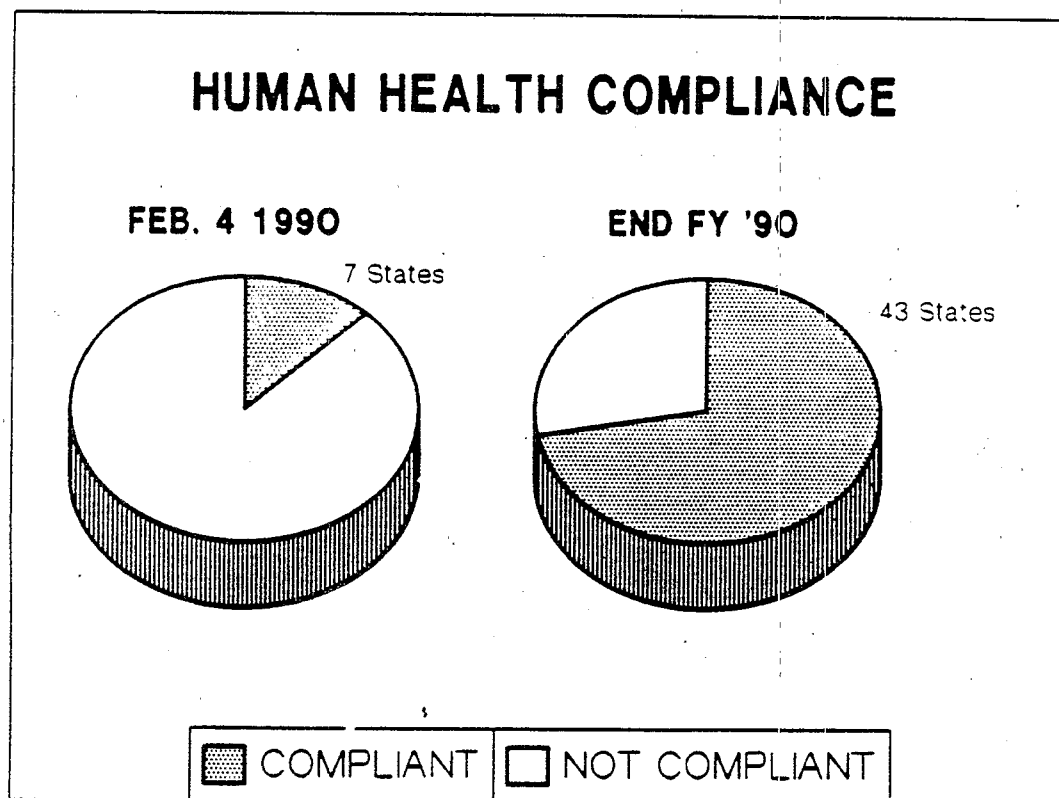
Figure 1



Human Health

As shown in Figure 2, 7 of the 57 States and Territories are judged by EPA to be in compliance (as of February 4, 1990) with the requirements of CWA Section 303(c)(2)(B) for human health. An additional 36 States are expected to achieve compliance by the end of FY 1990. For States not currently in compliance, EPA has initiated development of a proposed rulemaking to establish appropriate federal water quality standards.

Figure 2



State-by-State Findings

Alabama used a combination of Options 2 and 3 in adopting revised standards on January 24, 1990. However, while the criteria are still under review it appears that: (1) an insufficient number of numeric criteria were adopted, and (2) the translator procedure for human health is not adequate to meet the requirements of CWA Section 303(c)(2)(B) via option 3. The State has given no indication to EPA that changes will be made. The State has freshwater aquatic life criteria for 29 priority pollutants and human health criteria for 16 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

Alaska has adopted federal criteria by reference. Because the reference does not specify a risk level for carcinogens, the State is not considered to be compliant for human health at present. Specification of a risk level and other revisions are expected during FY 1990. The State is expected to achieve full compliance during FY 1990. The State has freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 108 priority pollutants.

Arizona is expected to adopt additional criteria by the end of FY 1990, but is not expected to submit such criteria for EPA approval until early FY 1991. The State currently has freshwater aquatic life and human health criteria for 26 priority pollutants.

Arkansas is noncompliant for aquatic life due to insufficient criteria for metals, and noncompliant for human health due to

lack of criteria for dioxin, PCBs, and pesticides. The State has adopted freshwater aquatic life criteria for 26 priority pollutants and has not adopted any human health criteria for priority pollutants. The State is not expected to achieve full compliance during FY 1990.

California is on schedule to adopt additional criteria by July, 1990, but is not expected to comply for either aquatic life or human health due to insufficient parametric coverage. The State has adopted freshwater aquatic life criteria for 18 priority pollutants and human health criteria for 19 priority pollutants.

Colorado intends to meet the full compliance requirements via option 2. The State has adopted freshwater aquatic life criteria for 64 priority pollutants and human health criteria for 61 priority pollutants. These adopted standards have been submitted for review, and EPA expects to take action on the toxics portion of the WQS in the spring of 1990. The State needs to: (1) complete a data evaluation to identify pollutants which can reasonably be expected to be interfering with designated uses, and (2) adopt appropriate criteria based on the results of the data evaluation. The State has indicated to EPA that it will reject any application of health-based standards (i.e., criteria which assume human exposure via consumption of contaminated aquatic organisms) to aquatic life classified segments. This approach will probably not result in Section 303(c)(2)(B) compliance for human health. Final resolution of this issue will depend, in part, on the results of the data evaluation.

Connecticut has not yet adopted any water quality criteria for priority pollutants, nor has the State demonstrated that criteria are not required. EPA expects the State to develop and adopt numeric criteria and achieve full compliance using an Option 1 approach during FY 1990.

Delaware adopted revised WQS which were received by EPA on February 7, 1990. These standards are now under review by EPA. The State has taken an option 2 approach (i.e., the State adopted freshwater aquatic life criteria for 34 priority pollutants and human health criteria for 92 priority pollutants). The State is expected to achieve full compliance during FY 1990.

Florida has not completed adoption proceedings. The current proposal reflects an option 2 approach. For aquatic life, EPA has approved criteria previously, but these criteria need to be updated using current (i.e., post 1985) information. The State is expected to adopt revised standards in June of 1990. Currently, the State has freshwater aquatic life and human health criteria for 43 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Georgia adopted revised criteria on December 6, 1989. However, the State has not finalized formal adoption for PCBs or dioxin health-based criteria. These criteria are still under review by EPA. The State has freshwater aquatic life criteria for 30 priority pollutants and human health criteria for 90 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

Hawaii adopted revised criteria for aquatic life and human health on January 18, 1990. Additional criteria will probably be required to comply for human health. It is expected that Hawaii will adopt such criteria or submit an acceptable rationale for not doing so during FY 1990. Currently, the State has freshwater aquatic life criteria for 75 priority pollutants and human health criteria for 77 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Idaho has adopted human health criteria for 15 priority pollutants, applicable to drinking water only. Dioxin is not included but is identified on the State's Section 304(1) list. The State is not expected to achieve full compliance during FY 1990.

Illinois adopted narrative criteria and a translator procedure on January 31, 1990. As of February 4, 1990, EPA had not yet approved the standards, hence the State was not fully compliant as of that date. The State achieved full compliance on February 15, 1990 when EPA approved the standards.

Indiana adopted water quality standards which were designed to satisfy CWA Section 303(c)(2)(B) on December 13, 1989. These were signed by the Governor on January 31, 1990 and became effective on March 3, 1990. The State is expected to submit these standards to EPA for review and approval in the near future. The State adopted freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 103 priority pollutants. The State is expected to achieve full compliance

during FY 1990.

Iowa has not adopted sufficient aquatic life or human health criteria. However, the State plans adoption in the spring of 1990 of a number of additional aquatic life criteria and is expected to supply information documenting that more criteria are not required (option 2). The State has a workplan to evaluate the need for more human health criteria and has indicated it will adopt necessary additional human health criteria by the end of the Fiscal Year. Currently, the State has freshwater aquatic life criteria for 10 priority pollutants and human health criteria for 11 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Kansas has drafted an extensive revision of both aquatic life and human health criteria that will undergo the State adoption process over the next three months. Basically the revisions follow an option 1 approach. Currently, the State has freshwater aquatic life criteria for 21 priority pollutants and no human health criteria for priority pollutants. The State is expected to achieve full compliance during FY 1990.

Kentucky has not yet completed adoption proceedings. The present proposal reflects an option 1 approach, and EPA expects adoption in July of 1990. Currently, the State has in effect freshwater aquatic life criteria for 21 priority pollutants and human health criteria for 6 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Louisiana's principal deficiencies are no dioxin criteria, and

few metals criteria. The State adopted standards state-wide for the parameters which they found could reasonably be expected to interfere with designated uses, and plans to adopt metals criteria by the end of the year. The State has freshwater aquatic life criteria for 44 priority pollutants and human health criteria for 46 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

Maine has adopted all EPA Section 304(a) criteria guidance via an option 1 approach, but EPA has not yet approved the standards (approval has been withheld due to problems with the State's antidegradation policy). EPA action on the Maine standards is expected in the spring of 1990. The State has freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 108 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Maryland chose an option 2 approach and held public hearings in November 1989. The State is now considering changes and may have to hold additional public hearings. A final adoption date has not been determined. Currently, the State has freshwater aquatic life criteria for 13 priority pollutants and human health criteria for 14 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Massachusetts has not yet adopted any water quality criteria for priority pollutants, nor has the State demonstrated that criteria are not required. Draft WQS revisions have been prepared but have not yet been formally proposed. The State is expected to

achieve full compliance during FY 1990.

Michigan Rule 57 meets the option 3 technical requirements but not the administrative requirements. The State has drafted changes. The State has been granted an extension to August, 1990 based upon completion of the previous triennial review in August of 1987. The State is expected to achieve full compliance during FY 1990.

Minnesota has initiated public hearings for water quality standards that should comply with Section 303(c)(2)(B). The State expects to have these standards in effect by June 1990. Currently, the State has freshwater aquatic life criteria for 4 priority pollutants but no human health criteria for priority pollutants. The State is expected to achieve full compliance during FY 1990.

Mississippi has not completed adoption proceedings. The current proposal reflects a combination of options 2 & 3, and EPA expects adoption in the spring of 1990. Currently, the State has freshwater aquatic life criteria for 1 priority pollutant and human health criteria for 9 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Missouri adopted aquatic life protection criteria for all priority pollutants for which EPA has criteria in December, 1987. The State also adopted a large number of human health criteria at that time but some only applied to drinking water supply segments. The State has not supplied documentation on why other

criteria are not required for fish consumption protection or drinking water supply protection. The State plans to add new human health criteria during FY 1990 or supply the documentation on why additional criteria are not required (option 2).

Currently, the State has freshwater aquatic life criteria for 39 priority pollutants and human health criteria for 70 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Montana has achieved full compliance by adopting all EPA criteria guidance by reference (i.e., an option 1 approach). EPA approved the Montana toxics criteria on March 8, 1989. The State has freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 108 priority pollutants.

Nebraska adopted all of EPA's aquatic life criteria in August 1988 (option 1). As of February 4, 1990, the State had freshwater aquatic life criteria for 103 priority pollutants and human health criteria for 36 priority pollutants. On February 16, 1990, the State adopted additional human health criteria, and is expected to submit these criteria to EPA by April 1990. The State is expected to achieve full compliance during FY 1990.

Nevada proposes to adopt aquatic life criteria and some human health criteria in the spring of 1990. It is expected that the Nevada standards will not fully comply due to insufficient human health coverage. Currently, the State has freshwater aquatic life criteria for 35 priority pollutants and human health

criteria for 30 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

New Hampshire has not yet adopted any water quality criteria for priority pollutants, nor has the State demonstrated that criteria are not required. New Hampshire DES held a hearing in November 1989 on its proposed WQS. The State is on a schedule to adopt numeric criteria in the spring of 1990. The State is expected to achieve full compliance during FY 1990.

New Jersey has adopted numeric criteria for a limited number of priority pollutants. To achieve compliance, the State will be required to adopt additional human health criteria for 14 organic substances due to expected presence and potential impact on designated uses. In addition, the Section 304(1) assessment identified the need for additional aquatic life criteria (for metals) in fresh and marine waters. Required criteria are expected to be adopted during FY 1990. Currently, the State has freshwater aquatic life criteria for 19 priority pollutants and human health criteria for 8 priority pollutants. The State is expected to achieve full compliance during FY 1990.

New Mexico is compliant for human health due to the apparent absence of toxics at levels which could reasonably be expected to pose health problems. The State still needs to adopt criteria for metals to achieve compliance for aquatic life, and is expected to do so during FY 1990. Currently, the State has no freshwater aquatic life criteria for priority pollutants and human health criteria for 7 priority pollutants.

New York has adopted criteria for 95 substances and classes of substances (not all of which are priority pollutants). However, EPA expects the 304(1) assessment will identify the need for toxic criteria for metals that are priority pollutants in certain classes of marine waters (such criteria are already adopted for some classes of marine waters). The State is expected to achieve full compliance during FY 1990. Currently, the State has freshwater aquatic life criteria for 49 priority pollutants and human health criteria for 43 priority pollutants.

North Carolina used a combination of options 2 & 3 in adopting toxics criteria. Numeric criteria for selected carcinogens were adopted at a 10^{-6} risk level. In addition, the State adopted a translator mechanism (EPA's criteria equations) for other carcinogens and threshold chemicals which incorporate EPA's Section 304(a) criteria assumptions. Such human health criteria have not yet been approved by EPA. Metals criteria for protection of aquatic life are also still under review by EPA. The State adopted freshwater aquatic life criteria for 27 priority pollutants and human health criteria for 35 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

North Dakota intends to comply via option 1. North Dakota originally elected an option 2 approach based on recommendations in EPA's December 1988 toxics guidance and other EPA guidance. Based, in part, on the Agency's announced intent to promulgate an option 1 approach and a reconsideration of the limitations of an

option 2 approach, North Dakota is now proposing to achieve compliance via option 1. The State needs to modify their standards to: (1) include EPA Section 304(a) criteria not already adopted, and (2) specify the information needed to apply the criteria (e.g., risk level). Currently, the State has freshwater aquatic life criteria for 31 priority pollutants and human health criteria for 15 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Ohio adopted water quality criteria for toxics on February 1, 1990. These standards will become effective on May 1, 1990. While the standards are still under review, EPA has reservations concerning a provision which places greater emphasis on biological measures over numerical and whole-effluent measures of water quality. The State adopted freshwater aquatic life criteria for 74 priority pollutants and human health criteria for 105 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Oklahoma is fully compliant. The State used option 1 for aquatic life criteria and adopted human health criteria for all pollutants on 304(l) short list and several others. EPA approved the State's toxics criteria in January of 1990. The State has freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 20 priority pollutants.

Oregon is fully compliant via an option 1 approach (adoption of criteria for all priority pollutants for which EPA has issued Section 304(a) guidance). EPA approved Oregon's toxics criteria

on March 9, 1988.

Pennsylvania chose to adopt toxics procedures by reference in the State WQS. EPA conditionally approved the procedures due to concerns regarding public participation and enforceability. The State has responded to EPA's conditions and an Agency action is expected in the spring of 1990. The State is expected to achieve full compliance during FY 1990.

Rhode Island has not yet adopted any human health water quality criteria for priority pollutants, nor has the State demonstrated that such criteria are not required. EPA expects that the State will achieve full compliance via an option 1 approach during FY 1990. The State has freshwater aquatic life criteria for 32 priority pollutants.

South Carolina's State Board adopted revisions to water quality standards which included all of EPA's aquatic life criteria in January of 1989. However the State Legislature did not act on the Bill containing these revisions and, therefore, the revised water quality standards did not become effective. The State's schedule for adoption will probably not result in effective standards for human health in FY 1990. Currently, the State has no water quality criteria for priority pollutants. The State is not expected to achieve full compliance during FY 1990.

South Dakota is expected to meet the full compliance requirements by way of option 1 during FY 1990. The State has adopted standards using an option 1 approach by referencing the Gold Book. EPA expects to take action on the toxics portion of the

State's WQS in March 1990. EPA action has been delayed pending completion of the following items: (1) confirmation of specific values, and (2) specification of information needed to apply the criteria (e.g., risk level). The State has freshwater aquatic life criteria for 32 priority pollutants and human health criteria for 108 priority pollutants.

Tennessee has not completed adoption proceedings. The current proposal reflects an option 2 approach. The State has not provided an adequate documentation explaining why other criteria were not proposed. Also, the rationale supporting the proposed dioxin criteria remains in question. EPA expects State adoption in April of 1990. Currently, the State has human health criteria for 10 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

Texas is compliant for aquatic life. The State is non-compliant for human health due to lack of criteria for dioxin, PCBs, pesticides, and organics. The State is expected to correct these deficiencies during FY 1990. The State has adopted freshwater aquatic life criteria for 30 priority pollutants, but has not yet adopted any human health criteria for priority pollutants. The State is expected to achieve full compliance during FY 1990.

Utah is expected to achieve full compliance via option 1 during FY 1990. The State originally elected an option 2 approach based on recommendations in EPA's December 1988 toxics guidance and other EPA guidance. Based, in part, on the Agency's announced intent to promulgate an option 1 approach and a reconsideration

of the limitations of an option 2 approach, Utah is now proposing to achieve compliance via option 1. The State needs to modify their standards to: (1) include EPA Section 304(a) criteria not already adopted, and (2) specify the information needed to apply the criteria (e.g., risk level). Currently, the State has freshwater aquatic life criteria for 31 priority pollutants and human health criteria for 10 priority pollutants.

Vermont has not yet adopted any water quality criteria for priority pollutants, nor has the State demonstrated that criteria are not required. EPA is encouraging the State to proceed using an Option 1 approach, and expects the State to achieve full compliance during FY 1990.

Virginia's triennial review will be completed in September which will allow for EPA action around December. The option to be used by the State and other details pertaining to the criteria revision have not yet been made available to EPA. Currently, the State has freshwater aquatic life criteria for 41 priority pollutants and human health criteria for 13 priority pollutants. The State is not expected to achieve full compliance during FY 1990.

Washington has adopted aquatic life criteria for 31 priority pollutants. No human health criteria are adopted. The State has provided written rationale for the 31 identified priority pollutants. Adoption of additional criteria is now scheduled for completion in June of 1991. The State is not expected to achieve full compliance during FY 1990.

West Virginia has chosen option 2. EPA has disapproved the State's WQS since criteria for seven priority pollutants were judged insufficiently protective by EPA. The State has agreed to do an emergency rulemaking in FY 1990 to adopt EPA's criteria for these pollutants. The State has freshwater aquatic life criteria for 68 priority pollutants and human health criteria for 63 priority pollutants. The State is expected to achieve full compliance during FY 1990.

Wisconsin has fully complied with CWA Section 303(c)(2)(B). The standards were approved by EPA on May 15, 1989. The State adopted freshwater aquatic life criteria for 25 priority pollutants and human health criteria for 100 priority pollutants.

Wyoming intends to achieve full compliance by way of option 1. Wyoming has proposed specific numerical standards for all of the priority pollutants for which EPA has published criteria (with the exception of several pollutants for which listed human health criteria are based solely on organoleptic effects). The Wyoming proposal has been through several public meetings with the final rulemaking hearing now scheduled for May 22, 1990. Currently, Wyoming has no criteria for priority pollutants. The State is expected to achieve full compliance during FY 1990.

American Samoa proposes to adopt toxics criteria in April, 1990. Currently, American Samoa has no criteria for priority pollutants. American Samoa is expected to achieve full compliance during FY 1990.

The Commonwealth of the Northern Marianas Islands and Trust Territories are expected to adopt additional criteria for aquatic life and human health and achieve full compliance during FY 1990.

The District of Columbia adopted aquatic life and human health criteria for toxics in 1985. However, the human health criteria were for water ingestion only. The District has not adopted any criteria assuming a fish consumption exposure pathway, and has proposed to drop the human health criteria based on water consumption. Apparently the one waterbody designated for public water supply has never been used as one. For aquatic life, the District has some criteria for priority pollutants which are outdated. However, the District has agreed to adopt updated aquatic life criteria during FY 1990. Currently, the District has freshwater aquatic life criteria for 123 priority pollutants and human health criteria for 110 priority pollutants. The District is not expected to achieve full compliance during FY 1990.

Guam has fully complied via an option 1 approach (adoption of all EPA criteria by reference). EPA approved the standards on September 30, 1987.

Puerto Rico has submitted draft water quality standards revisions (including numeric criteria for eight toxics). In addition, the 304(1) assessment identified the need for aquatic life-based criteria for seven metals in fresh waters, and a human health-based criterion for one priority pollutant. These criteria are expected to be adopted during FY 1990. Currently, Puerto Rico

has freshwater aquatic life criteria for 12 priority pollutants and human health criteria for 8 priority pollutants. The State is expected to achieve full compliance during FY 1990.

The Virgin Islands has complied due to absence of pollutants at levels of concern. There are no perennial streams or surface water impoundments, and relatively few point source discharges. Information collected on levels of toxic substances in the coastal waters failed to document any priority pollutant at levels of concern.

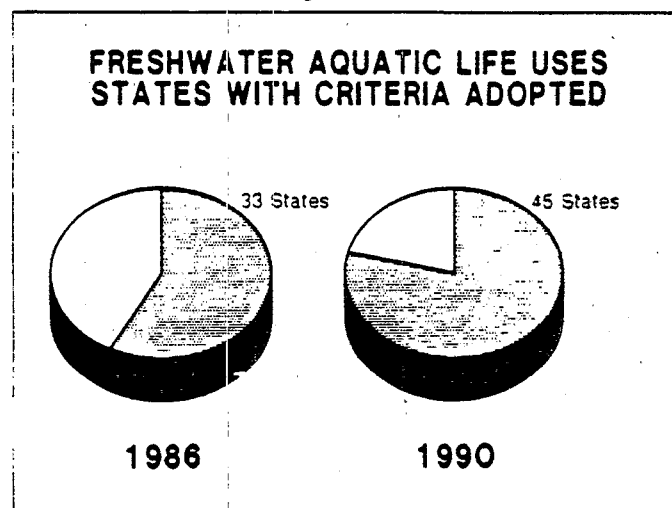
What Progress Has Been Achieved?

Freshwater Aquatic Life Uses

To measure progress in State adoption of toxics criteria, available data from April, 1986 on State toxics criteria were compared to criteria adopted as of February 4, 1990. The data supported a comparison for freshwater aquatic life protection uses only. The comparison showed substantial progress in both the number of States and the number of Section 307(a) priority pollutants with criteria adopted.

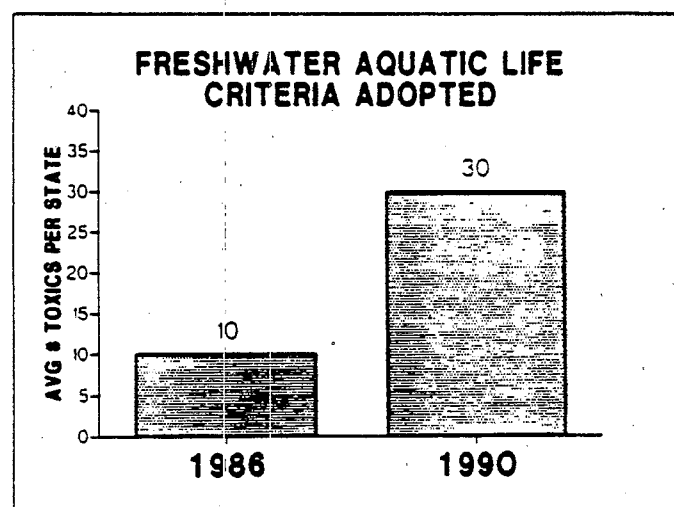
- o The number of States and Territories that have adopted toxics criteria **INCREASED** from 33 (in 1986) to 45 (in Feb. 1990) - Figure 3.

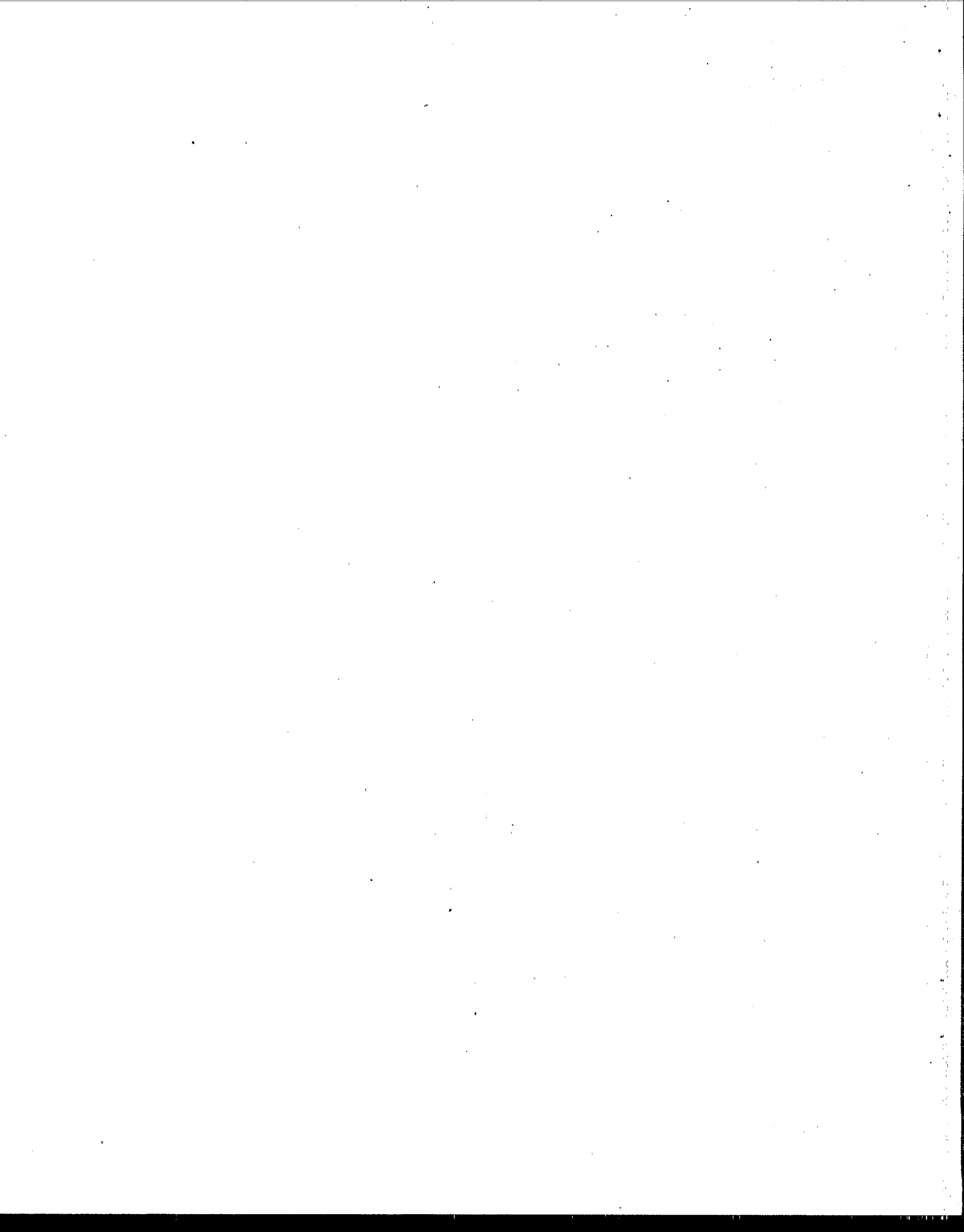
Figure 3



- o The average number of 307(a) toxics with criteria **INCREASED** from 10 per State (in 1986) to 30 per State (in Feb. 1990) - Figure 4.

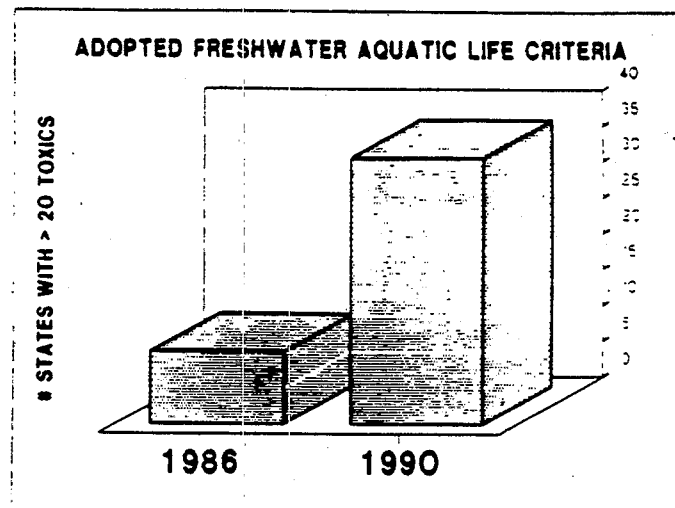
Figure 4





- o The number of States with criteria for more than 20 priority pollutants INCREASED from 10 (in 1986) to 37 (in Feb. 1990) - see Figure 5.

Figure 5



Human Health

States have also made substantial progress in adopting toxics criteria for protection of human health. Prior to 1986, human health criteria were adopted primarily for protection of public water supplies. These criteria were applicable to a relatively small percentage of all State waters, however, and the primary route of exposure considered was consumption of water.

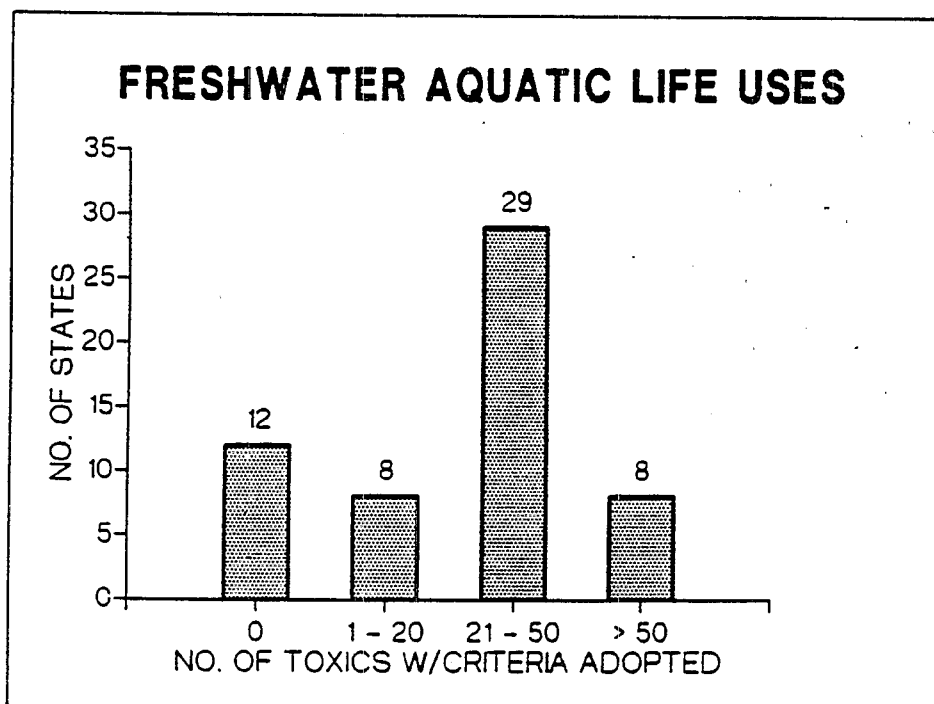
As of February 4, 1990, 39 States have adopted toxics criteria for protection of human health. Most of these criteria apply in-stream and were derived assuming water consumption, fish consumption, and (in a few States) incidental ingestion while recreating as routes of exposure. "Fish consumption" criteria generally apply on all reaches designated for aquatic life protection (most State waters), while "water and fish" consumption criteria generally apply on reaches designated as public water supplies.

How Many Priority Pollutants Are Regulated?

Freshwater Aquatic Life Uses

As shown in Figure 6, 45 of 57 States and Territories have adopted numerical toxics criteria for freshwater aquatic life uses. Of the 45 States, 8 have adopted criteria covering 1 to 20 pollutants, 29 have adopted criteria covering 21 to 50 pollutants, and 8 have adopted criteria covering more than 50 pollutants. A total of 12 States and Territories have not yet adopted numerical toxics criteria for freshwater aquatic life. One of these States (Virgin Islands) has demonstrated that no such criteria are required. Another State (Michigan) has adopted translator procedures for derivation of aquatic life criteria. Of the remaining 10, EPA currently expects at least 9 States to adopt criteria during the current review cycle (Idaho is currently not expected to adopt criteria for aquatic life).

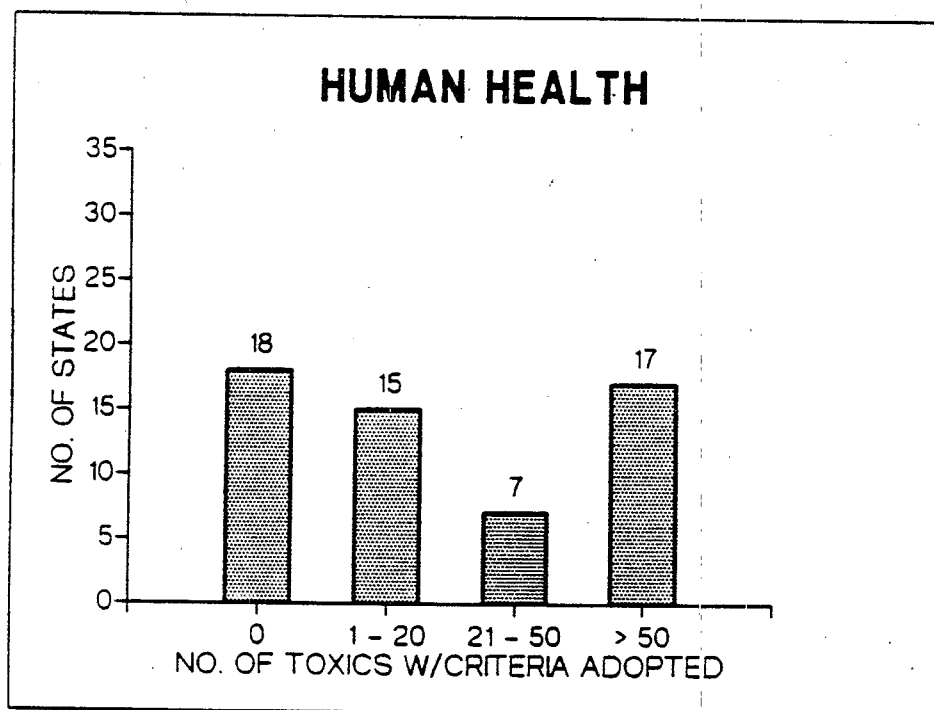
Figure 6



Human Health

As shown in Figure 7, 39 of 57 States and Territories have adopted numerical toxics criteria for protection of human health. Of the 39 States, 15 have adopted criteria covering 1 to 20 pollutants, 7 have adopted criteria covering 21 to 50 pollutants, and 17 have adopted criteria covering more than 50 pollutants. A total of 18 States and Territories have not yet adopted human health numerical toxics criteria. One of these States (i.e., Virgin Islands) has demonstrated that no such criteria are required. Another two States (i.e., Illinois, Michigan) have adopted a translator procedure with which human health criteria may be derived. Of the remaining 15 States, EPA currently expects at least 14 States to adopt numeric criteria during the current review cycle (Arkansas is currently not expected to adopt criteria for human health).

Figure 7



Which Priority Pollutants?

The 126 priority pollutants are listed in Appendix 2. For each pollutant, Appendix 2 identifies the total number of States where numeric criteria have been adopted or are expected (for protection of any designated use). Below, Table 2 lists the 27 priority pollutants for which numeric criteria are adopted in 35 or more States.

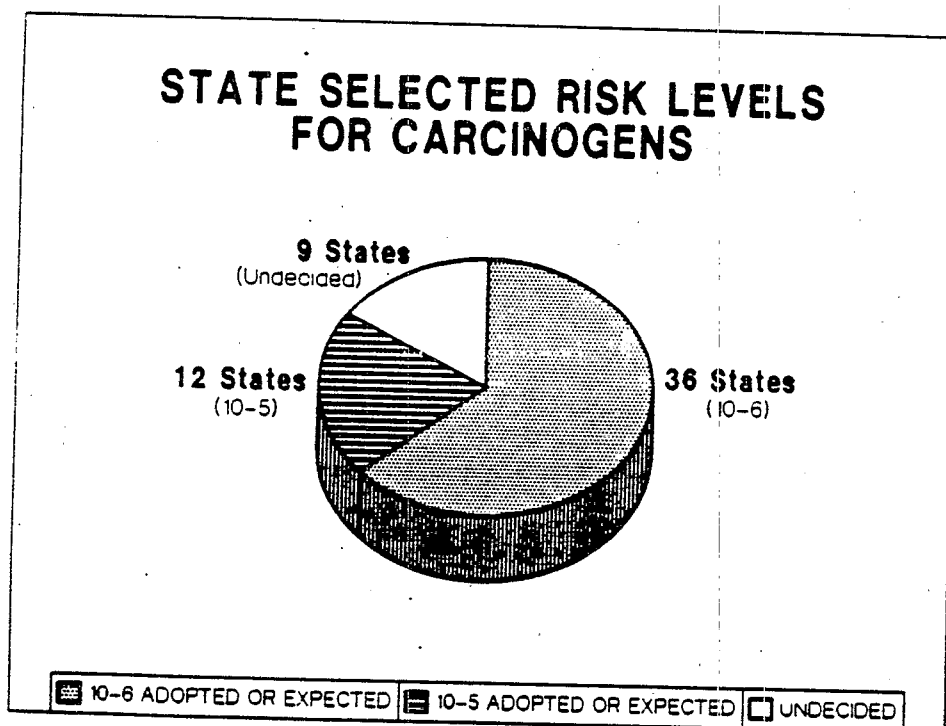
Table 2

Priority Pollutant	# States w/Criterion Adopted
Aldrin	40
Dieldrin	39
Chlordane	38
4,4-DDT	37
Alpha-Endosulfan	36
Beta-Endosulfan	36
Endrin	41
Heptachlor	37
Gamma-BHC (lindane)	38
PCBs (7 priority pollutants)	40
Toxaphene	41
Arsenic	42
Cadmium	43
Chromium	45
Copper	39
Cyanide	42
Lead	43
Mercury	43
Selenium	45
Silver	44
Zinc	40

What Risk Level Are States Choosing for Carcinogens?

As shown in Figure 8, 48 States and Territories have selected (or are expected to select) a risk level for carcinogens. A total of 36 of these States have selected (or are expected to select) a risk level of 10^{-6} , while 12 have selected (or are expected to select) a risk level of 10^{-5} . At present, EPA has no information or expectations regarding the risk levels to be selected by the remaining 9 States and Territories. See Appendix 3 for a listing of State-selected risk levels.

Figure 8



NOTE:

Some States have adopted criteria based on MCLs or National Primary or Secondary Drinking Water Regulations. These criteria, developed by EPA, were developed using assumed risk levels. Such risk levels are not included in this discussion because they are risk levels selected by EPA, not the States.

What Exposure Pathway Assumptions are States Making
in Setting Toxics Criteria for Human Health?

In setting human health criteria for toxic pollutants, States must make assumptions regarding pathways of human exposure. Three routes of exposure have been used by States to date (though not all States use all three): (1) exposure through water consumption, (2) exposure through consumption of contaminated aquatic organisms (i.e., fish flesh), and (3) exposure through incidental ingestion of water while recreating. For water consumption, all States which have adopted human health criteria have assumed consumption of 2 liters per person per day. For fish consumption, most States have assumed 6.5 grams per person per day, which is the national average that EPA recommends (those that did not are listed in Table 3). For incidental ingestion, 1 State has assumed 89 ml per person per day and 6 States have assumed 10 ml per person per day. Refer to Appendix 4 for a detailed list of State human health criteria exposure assumptions.

Table 3 - Alternate Fish Consumption Rates

STATE	ADOPTED	EXPECTED
New York	33 g/day.	
Delaware	5.2 g/day (freshwater)	
	37 g/day (saltwater)	
Illinois	20 g/day.	
Minnesota		30 g/day.
Wisconsin	20 g/day.	
Louisiana	20 g/day.	
California		23 g/day.
Hawaii	19.9 g/day.	

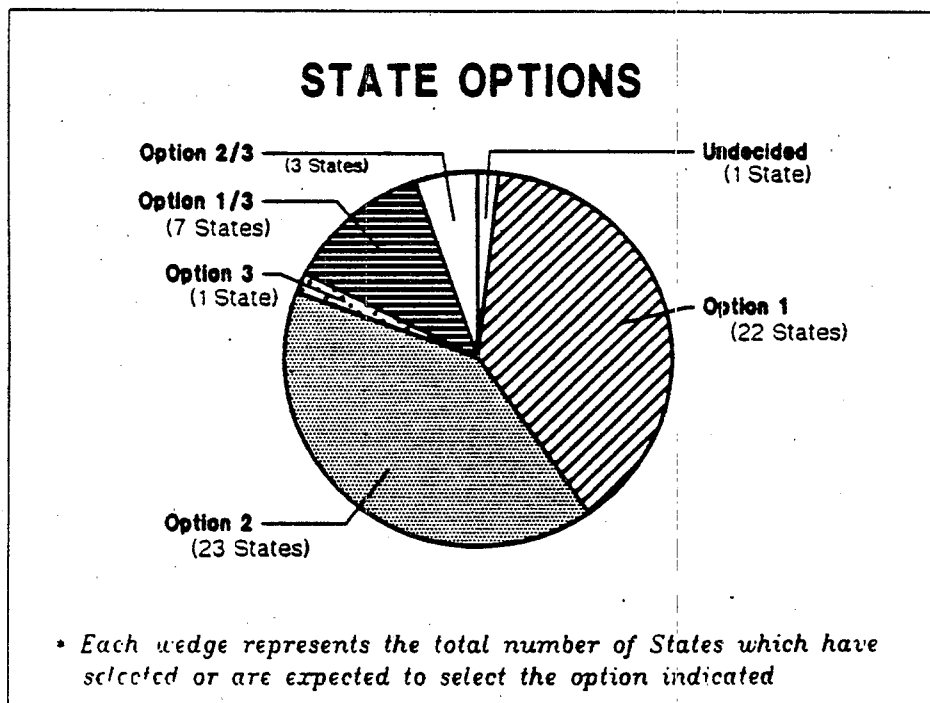
What Compliance Option(s) Are States Choosing?

For a full discussion/description of the options available to States for complying with CWA Section 303(c)(2)(B), see EPA's December 1988 toxics guidance. Briefly, these options are:

- (1) adopt numeric criteria for all pollutants for which EPA has issued Section 304(a) criteria guidance,
- (2) adopt numeric criteria for all pollutants for which EPA has issued Section 304(a) criteria guidance and the pollutant can reasonably be expected to interfere with uses, and
- (3) adopt a translator procedure which can be used to derive numeric criteria on an "as needed" basis.

As shown in Figure 9, most States are expected to use options 1 and 2. Of the fifty-seven States and Territories, 45 will use options 1 or 2, 10 will use a combination of options 1 or 2 with option 3, 1 will use option 3 exclusively, and 1 is undecided (see Appendix 5 for a list of State options).

Figure 9



What States are Adopting Option 3
Translator Procedures?

A total of six States (i.e., Maine, Rhode Island, Pennsylvania, North Carolina, Illinois, Michigan) have adopted translator procedures for derivation of either aquatic life or human health criteria. An additional five States are expected to adopt (i.e., Massachusetts, New Hampshire, Mississippi) or will be encouraged to adopt (i.e., Connecticut, Vermont) translator procedures during the current review cycle. Note that Michigan is the only State relying solely on an Option 3 translator approach.

Table 3
States with Translator Procedures Adopted/Expected

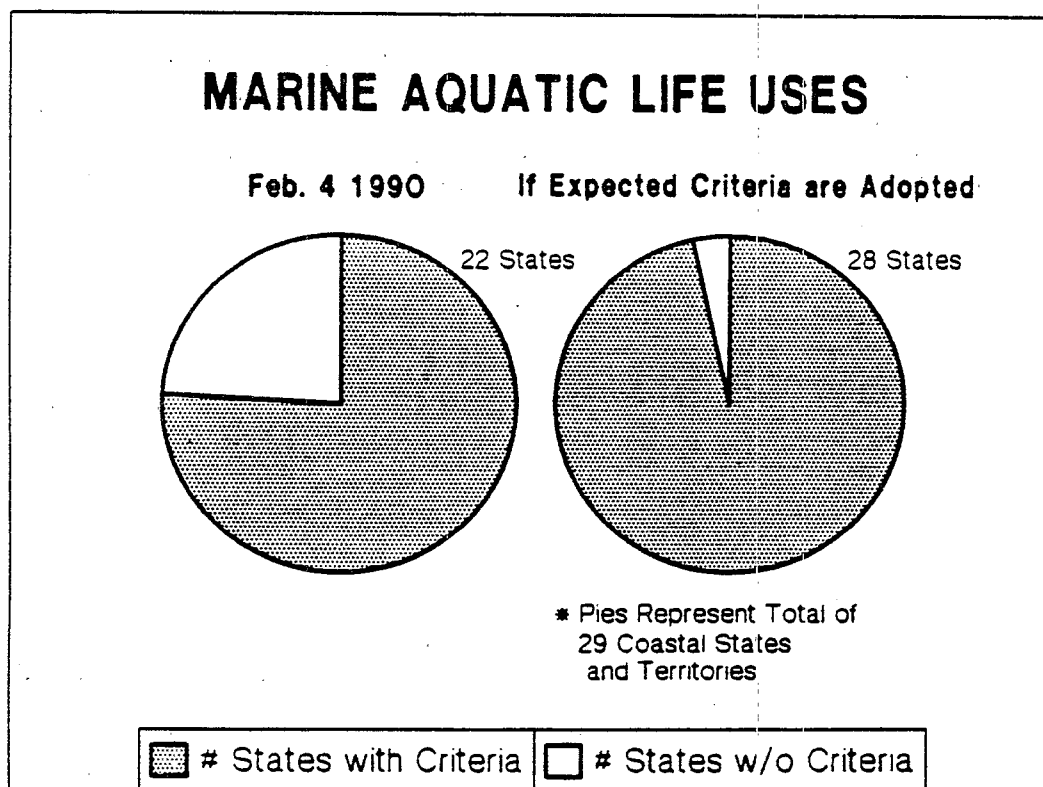
REGION	STATE	ADOPTED		EXPECTED	
		Aq. Life	HH	Aq. Life	HH
I	Connecticut			X	
	Maine	X			
	Massachusetts			X	
	New Hampshire			X	
	Rhode Island	X			
	Vermont			X	
III	Pennsylvania	X	X		
IV	Mississippi (1)			X	X
	North Carolina (2)	X	X		
V	Illinois	X	X		
	Michigan	X	X		

- (1) The State is using mostly Option 1 - for pollutants where no criteria are adopted, the State is expected to adopt a translator procedure.
- (2) The State is using mostly Option 2 - for pollutants where no criteria are adopted, the State has adopted a translator procedure.

What is the Status of Criteria Adoption for Marine Waters?

For marine waters, as shown in Figure 10, 22 of the 29 coastal States and Territories have adopted numerical toxics criteria for protection of marine aquatic life. Many of these States have also adopted human health criteria assuming consumption of contaminated marine fish and shellfish. If expected criteria are adopted, 28 of the 29 coastal States and Territories would have numerical toxics criteria for protection of marine aquatic life. The one Territory that would not have criteria (the Virgin Islands) has demonstrated that criteria are not required based on currently available information.

Figure 10



IV DESCRIPTION OF CRITERIA ADOPTED/EXPECTED
BY EPA REGION

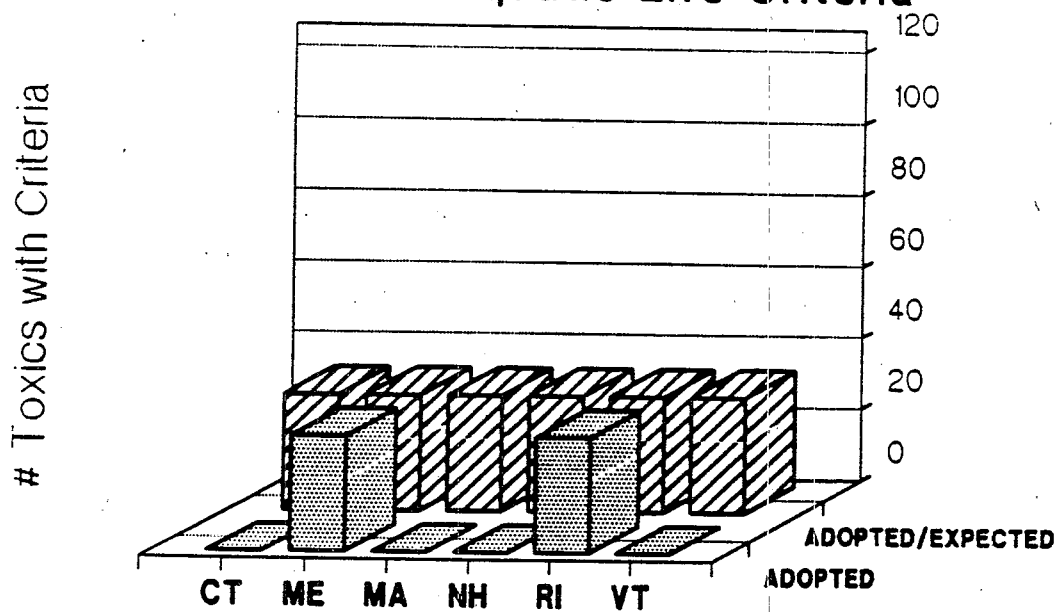
Region I

Number of Toxics with Criteria Adopted for Region I States

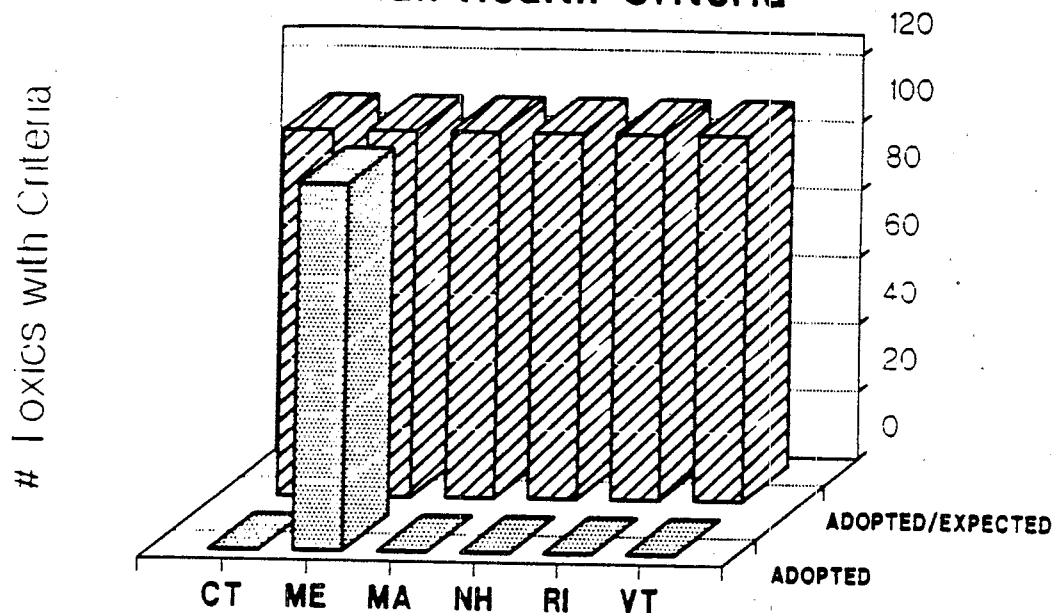
	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
CT	0	0	0	0	32	32	108	0	32	32	108	0
ME	32	32	108	0	0	0	0	0	32	32	108	0
MA	0	0	0	0	32	32	108	0	32	32	108	0
NH	0	0	0	0	32	32	108	0	32	32	108	0
RI	32	32	0	0	0	0	108	0	32	32	108	0
VT	0	0	0	0	32	0	108	0	32	0	108	0

* All States also have translator procedures adopted or expected

Region I Freshwater Aquatic Life Criteria



Region I Human Health Criteria



Region I Notes

Connecticut

No numeric criteria have been adopted. It is expected that the State will use EPA Section 304(a) criteria and methods, though preliminary decisions regarding risk level, exposure routes, or consumption rates have not yet been made. Connecticut has received the results of effluent toxicity tests from all of its industrial direct dischargers and is prepared to use these results and the EPA criteria as the basis for numeric criteria. DEP is not yet certain which chemicals will have criteria, though an option 1-type approach is expected.

Maine

Maine has adopted all EPA Section 304(a) guidance. EPA expects to approve these criteria in March of 1990. The human health criteria are applied at 10-6 risk level in permits. The human health criteria are applicable to all waters assuming exposure through fish consumption except in those limited cases where surface waters are used as a drinking water supply. To date there has been no modification of fish consumption rates but the Maine health department is looking into local consumption rates.

Massachusetts

No numeric criteria have been adopted. It is expected that Section 304(a) criteria and methods will be used. Massachusetts Department of Environmental Protection has established a task force looking into integrated risk management which may result in changing fish consumption rates from the national average. Internal legal review of the draft water quality standards revisions has contributed to lengthy delay in the announcement of the public notice. It may be three months until Region I receives the package. An option 1-type approach is expected.

New Hampshire

The draft WQS revision incorporates Section 304(a) criteria at the 10-6 risk level applicable to all waters based on fish and water consumption. A public hearing was held in November 1989. A citizens panel has been formed to review the draft package in depth. New Hampshire is on a schedule to adopt revisions, with numeric criteria, by March 31, 1990.

Rhode Island

No numeric criteria to protect human health have been adopted, although Region I is encouraging the State to adopt all EPA Section 304(a) criteria guidance.

Vermont

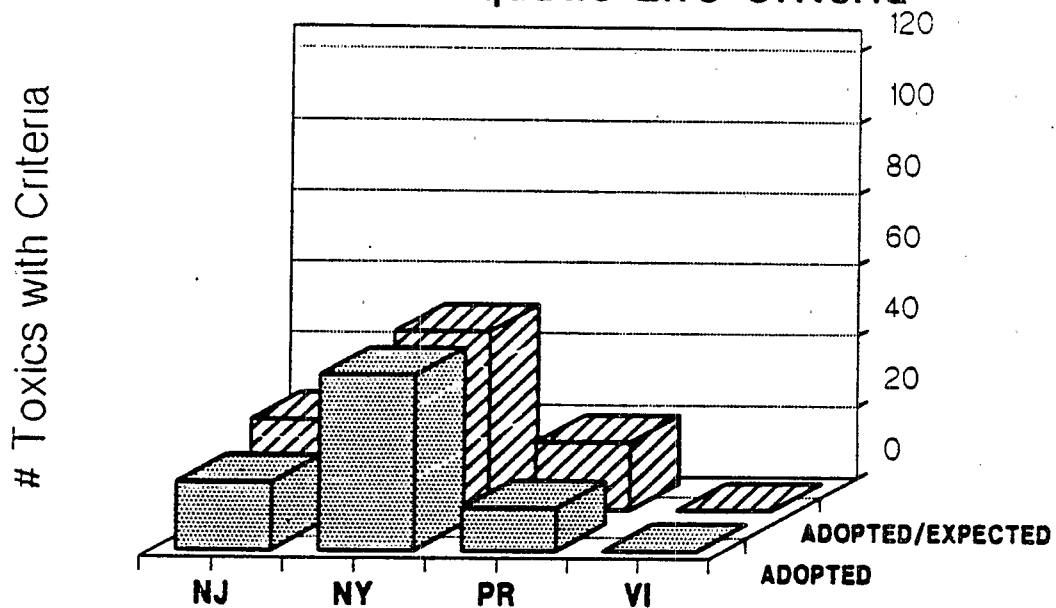
No numeric criteria have been adopted. Discussions are ongoing with the Vermont Water Resources Board and the Vermont DEC. Region I is encouraging the State to adopt all EPA Section 304(a) criteria.

Region II

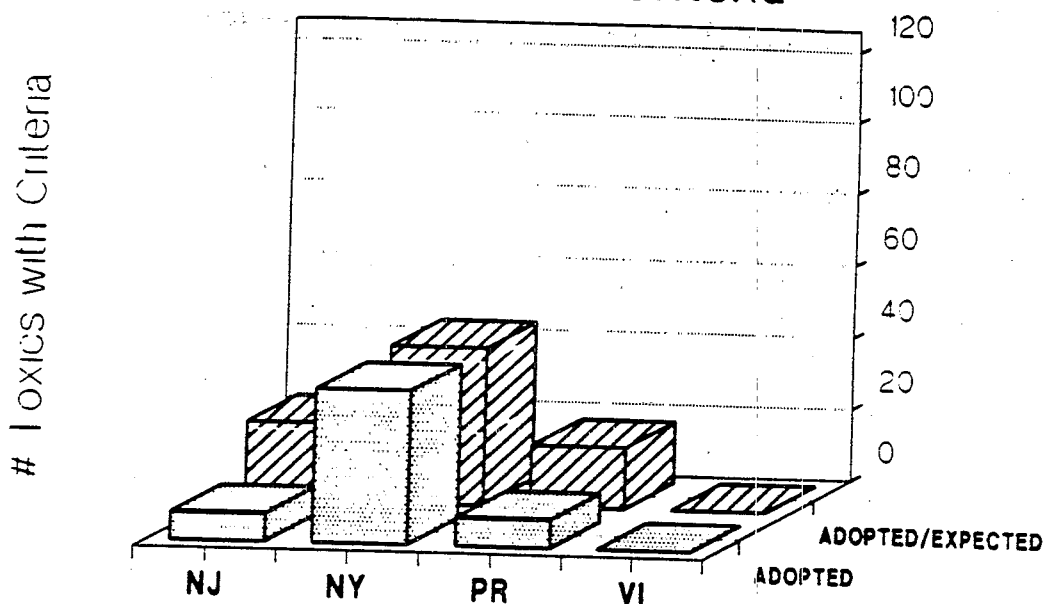
Number of Toxics with Criteria Adopted for Region II States

	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
NJ	19	19	8	0	6	8	14	0	25	27	22	0
NY	49	33	43	13	1	1	1	0	50	34	44	13
PR	12	20	8	0	7	0	9	0	19	20	17	0
VI	0	0	0	0	0	0	0	0	0	0	0	0

Region II Freshwater Aquatic Life Criteria



Region II Human Health Criteria



Region II Notes

New Jersey

The State of New Jersey proposed human health-based criteria for 14 organic substances in the public notice of a recent water quality standards (WQS) review/revision. Although these criteria were not adopted, the Region still expects the State to adopt criteria for these substances due to expected presence and potential impact on designated uses in waters of the State. In addition, the Section 304(1) Assessment identified the need for aquatic life-based criteria for six metals that are priority pollutants in fresh waters and for seven metals that are priority pollutants in marine waters. The Region expects criteria for these substances to be adopted during Federal Fiscal Year 1990.

Fresh water human health criteria for 7 priority pollutants are equal to USEPA MCLs. The State's criterion for benzidine (a carcinogen) is also reportedly human health based. The State is in the process of developing human health based criteria for an additional 14 priority pollutants. These criteria are expected to be based on drinking water ingestion, using USEPA MCL related information and may also consider the consumption of contaminated aquatic organisms. The State is also in the process of developing a human health based criteria development policy, which will address a number of critical issues such as exposure assumptions and risk levels. Presently adopted toxics criteria were last approved by EPA on July 8, 1985.

New York

The State has indicated that a limited number of numeric criteria for priority pollutants will be included in a WQS proposal from the review/revision currently underway (and approaching completion) to supplement the existing criteria for 95 substances and classes of substances (not all 95 substances are priority pollutants). The Region expects criteria for these substances to be adopted during Federal Fiscal Year 1990. In addition, the Region expects the Section 304(1) Assessment will identify the need for toxic criteria for metals that are priority pollutants in certain classes of marine waters. However, criteria for these metals may already be included in other classes of marine waters.

Water quality criteria in New York State always consider and are often based on USEPA water quality criteria recommendations. The State's procedures for deriving human health based water quality criteria are specified in the New York State Water Quality Standards Regulation. For carcinogens, the basis for the water quality criterion is the dose corresponding to an excess lifetime cancer risk of one in one million and an average 70 kilogram adult consuming 2 liters of water a day for 70 years. A water quality criterion based on bioaccumulation and human consumption of fish is determined using a consumption rate of 33 grams of fish per day. The presently adopted toxics criteria were last approved by EPA on September 26, 1985.

Puerto Rico

The Commonwealth of Puerto Rico has submitted a draft of proposed WQS revisions, including human health-based criteria for 8 priority pollutants. In addition, the Section 304(1) Assessment identified the need for aquatic life-based criteria for seven metals that are priority pollutants in fresh waters, and a human health-based criterion for one priority pollutant. The Region expects criteria for these substances to be adopted during Federal Fiscal Year 1990.

There is little documentation readily available on the basis for adoption of human health based criteria for toxic substances. Fresh water criteria for 8 priority pollutants are generally equal to USEPA MCLs. Criteria for some pesticides specified in the Water Quality Standards Regulation applicable to fresh and marine waters are equally or more stringent than USEPA Clean Water Act Section 304(a) criteria (at the 1 in 100,000 risk level for carcinogens), although it appears that the criteria were adopted based on the protection of aquatic life. Currently adopted toxics criteria were last approved by EPA on June 9, 1983.

U.S. Virgin Islands

The U.S. Virgin Islands, through the Department of Planning and Natural Resources, has neither adopted human health based numeric criteria for priority pollutants to date, nor are any expected, based on the information currently available. There are no perennial streams or surface water impoundments, and relatively few point source discharges. Information collected on levels of toxic substances in the coastal waters failed to document any priority pollutant at levels of concern. The standards were last approved by EPA on May 21, 1985.

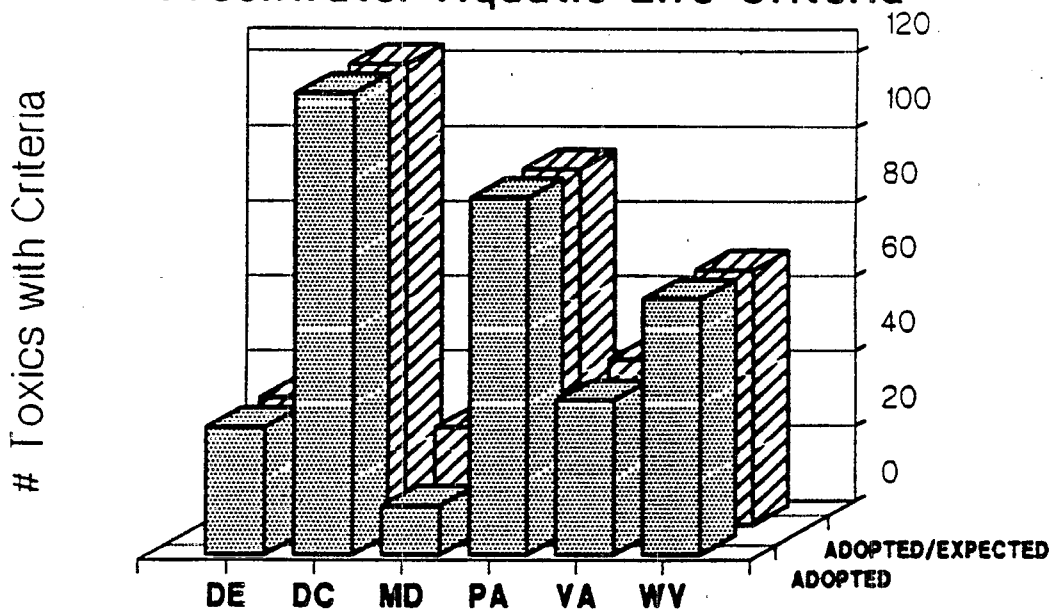
Region III

Number of Toxics with Criteria Adopted for Region III States

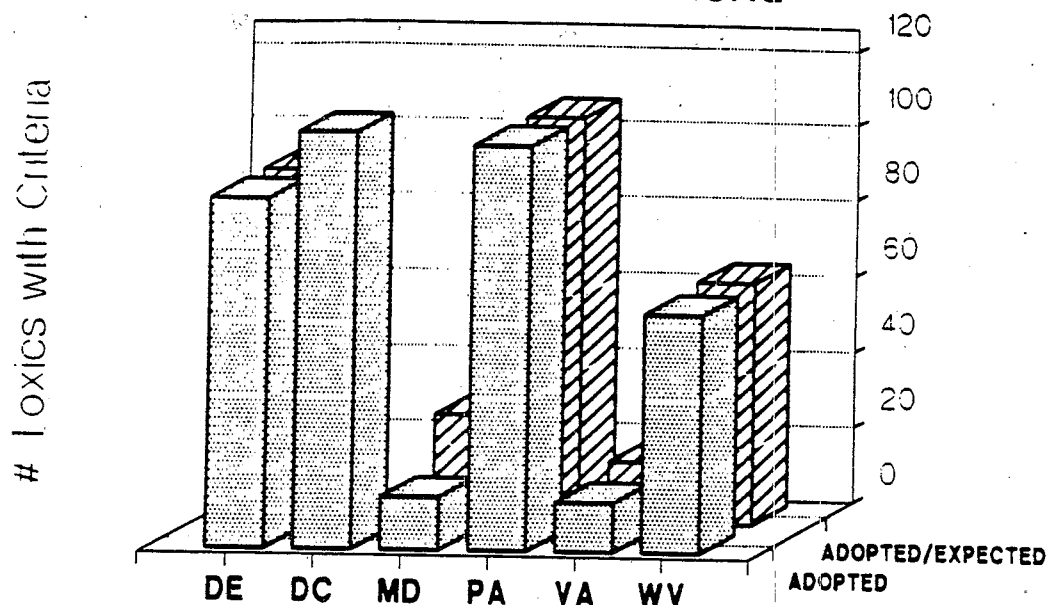
	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
DE	34	34	92	0	0	0	0	0	34	34	92	0
DC	23	0	10	0	0	0	110	0	23	0	0	0
MD	13	13	14	0	13	13	14	0	26	26	28	0
PA	95	0	107	0	0	0	0	0	95	0	107	0
VA	41	41	13	0	3	3	3	0	44	44	16	0
WV	68	0	63	18	0	0	1	0	68	0	64	18

← PA has adopted a translator
procedure for Aquatic Life and Human Health

Region III Freshwater Aquatic Life Criteria



Region III Human Health Criteria



Region III Notes

Delaware

Delaware adopted human health criteria on February 2, 1990 for toxics based on EPA Section 304(a) criteria and methods with revised freshwater and saltwater fish consumption rates, information in IRIS, and MCLs. EPA is currently reviewing the adopted criteria.

Delaware assumes fish ingestion rates of 5.2 g/day for freshwater and 37 g/day for saltwater. The State has selected a risk level of 10⁻⁶. The fish consumption only criteria are applicable Statewide, whereas the water and fish consumption criteria are applicable only on public water supplies.

District of Columbia

The District of Columbia has adopted human health criteria based on EPA Section 304(a) criteria and methods. These criteria were approved by EPA on October 31, 1985. The District uses a risk level of 10⁻⁶ and assumes exposure through water consumption. The criteria are applicable only on public water supplies.

The District has not adopted criteria assuming fish consumption as an exposure pathway. In addition, the District is proposing to remove the only public water supply designation within the District. Consequently, human health criteria will not be

applicable within the District. Public hearings were held in July 1989, but a final adoption date has not been specified.

Maryland

Maryland has proposed human health criteria based on EPA Section 304(a) criteria for fish consumption and MCLs for drinking water. A fish consumption rate of 6.5 g/day and a 10⁻⁵ risk level for carcinogens are being used. Public hearings were held in November and December 1989, but a final adoption date has not been specified.

Pennsylvania

Pennsylvania has adopted a procedure to develop criteria for toxics. The State has derived human health criteria for 107 toxics. EPA conditionally approved the procedure on September 29, 1989. Final approval is expected in the spring of 1990.

The State's human health criteria are based on EPA Section 304(a) criteria and methods, information in IRIS, and MCLs. The State has selected a risk level of 10⁻⁶ and assumes exposure through water and fish consumption. The criteria are applicable statewide. Pennsylvania uses EPA fish and water consumption rates.

Virginia

Virginia had previously adopted human health criteria to protect drinking water and is expected to adopt additional criteria for fish consumption and drinking water by September 30, 1990. At this time, it is not known what the basis or assumptions of the revised criteria will be.

West Virginia

West Virginia has adopted criteria based on EPA Section 304(a) criteria and methods, information in IRIS, and MCLs. EPA disapproved the standards on September 29, 1989. The State is expected to conduct an emergency rulemaking during FY 1990 to revise the disapproved criteria.

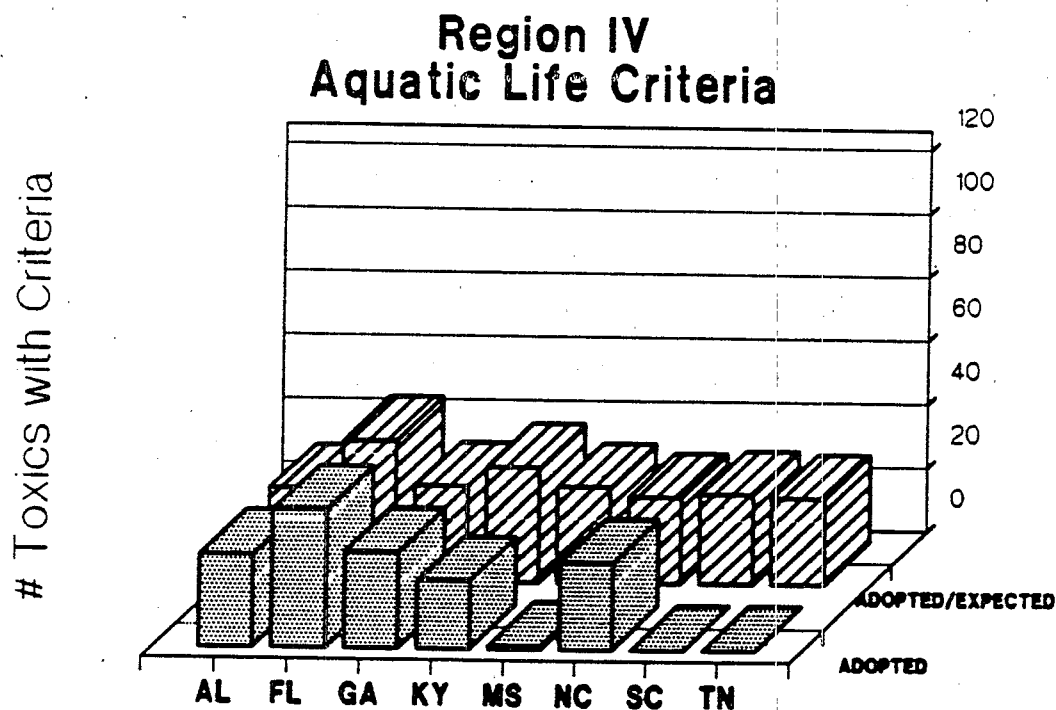
The State has selected a risk level of 10⁻⁶. The fish consumption only criteria are applicable on waters designated for trout or warm water aquatic life. The water consumption criteria apply on public water supplies only.

Region IV

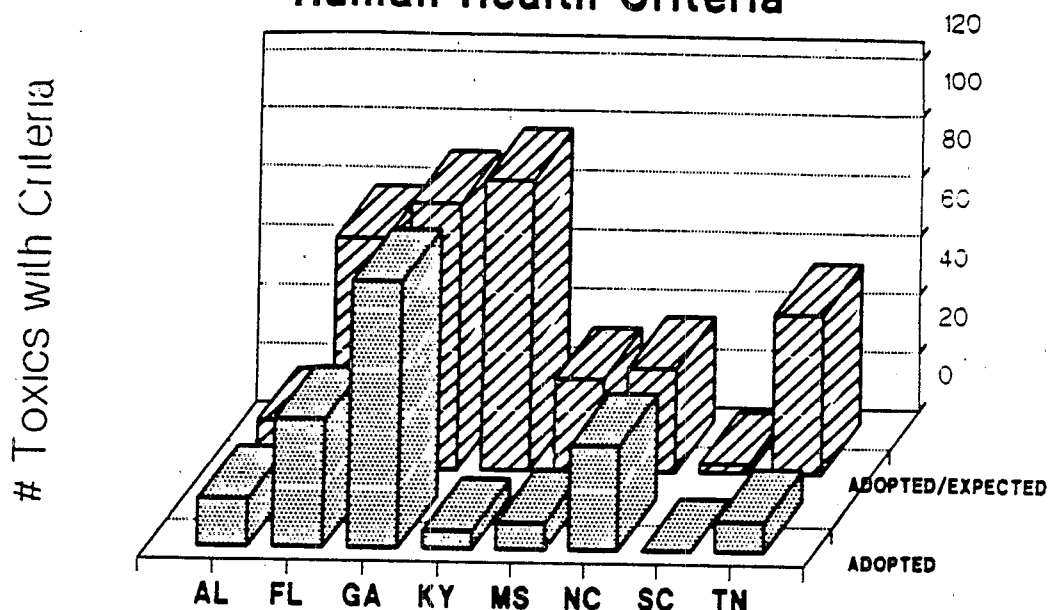
Number of Toxics with Criteria Adopted for Region IV States

	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
AL	29	29	16	0	0	0	0	0	29	29	16	0
FL	43	35	43	0	31	25	63	0	44	36	78	0
GA	30	30	90	0	0	0	0	0	30	30	90	0
KY	21	0	6	0	36	0	98	0	36	0	98	0
MS	1	0	9	0	30	30	31	0	30	30	31	0
NC	27	25	35	0	0	0	0	0	27	25	35	0
SC	0	0	0	0	28	28	3	0	28	28	3	0
TN	0	0	10	0	27	0	54	0	27	0	54	0

* NC has adopted, and MS is expected to adopt, translator procedures for aquatic life and human health



Region IV Human Health Criteria



Region IV Notes

Alabama

Alabama adopted human health criteria based on EPA 304(a) criteria and methods for selected pollutants on January 24, 1990. EPA is currently reviewing these adopted criteria. The State used a risk level of 10-5 and assumed exposure through fish consumption. The fish consumption criteria are applicable Statewide. The State used EPA's fish ingestion rate of 6.5 g/day.

Florida

With two exceptions (antimony and selenium), the criteria values listed for the Potable Water Supply (PWS) classification are equal to the criteria for the freshwater classification of Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. An antimony criterion is not listed in the PWS class and the Selenium PWS criterion is more stringent. Although some of the remaining PWS criteria are based on aquatic life considerations, all have been counted as human health criteria. No consistent risk level is recognized in the State's standards. Water consumption is the only route of exposure considered. The State uses EPA's water consumption rate of 2 l/day. The currently adopted toxics criteria were last approved by EPA on September 24, 1987.

The 'expected' criteria have been formally proposed for public review and comment. These criteria were discussed at a public workshop held by the Florida Department of Environmental Regulation on February 7, 1990. The State is on a schedule for adoption in June of 1990.

Georgia

The State has adopted human health criteria based on EPA Section 304(a) criteria and methods and information in IRIS. The State selected a risk level for most carcinogens of 10⁻⁶ and assumed exposure through fish consumption. The PCB and dioxin criteria were adopted by emergency rulemaking without public review on December 6, 1989. These criteria are under review by EPA. These criteria are purported to be at a risk level of 10⁻⁵. The fish consumption criteria are applicable Statewide. The State used EPA's fish consumption rate of 6.5 g/day.

Kentucky

Kentucky has proposed human health criteria based on MCLs and EPA Section 304(a) criteria and methods (1980 criteria documents). The State selected a risk level of 10⁻⁶ for carcinogens and assumed exposure through water and fish consumption. The MCLs and water-fish consumption criteria apply only to waters classified as water supplies. The State's fish consumption criteria apply to all other State waters. The State used EPA's water and fish consumption rates. Currently adopted toxics criteria were last approved by EPA on July 10, 1985.

Kentucky's 'expected' criteria are in the initial stage of consideration by two subcommittees of the State Legislature. A public hearing was held to seek comments on the draft criteria on November 28, 1989. The State is on a schedule for adoption in July of 1990.

Mississippi

The State has adopted human health criteria based on MCLs and is expected to adopt additional criteria based on MCLs, EPA Section 304(a) criteria and methods, and current IRIS information. The State is expected to select a risk level of 10⁻⁶ for carcinogens and assume exposure through water and fish consumption. The expected fish consumption criteria will apply to all State waters. The expected criteria based on water and fish consumption or MCLs will apply only to waters classified as drinking water supplies. The State is expected to use EPA's water and fish consumption rates. The current toxics criteria were last approved by EPA on October 11, 1985.

The 'expected' criteria have been discussed at a public hearing on the triennial review, which was held on February 12, 1990. The public comment period ended on the same date. The State is on a schedule for adoption in the spring of 1990.

North Carolina

The State has adopted human health criteria based on EPA Section 304(a) criteria and methods and information in IRIS (as of July, 1989). These criteria are under review by EPA. The State selected a risk level of 10^{-6} and assumed exposure through water and fish consumption. The fish consumption criteria apply to all State waters, while the water and fish consumption criteria apply only to waters classified as drinking water supplies. The State used EPA's water and fish consumption rates.

South Carolina

The State is expected to adopt three human health criteria based on MCLs. Risk level is not to be considered. The proposed criteria will be applicable to all State waters. The route of exposure is expected to be water consumption, and the State is expected to use EPA's water consumption rate of 2 l/day.

The State has stated an intention to include human health criteria in the water quality standards proposal to be considered for adoption by the Department of Health and Environmental Control Board. In January of 1989, the Board adopted revisions to water quality standards which included all of EPA's aquatic life criteria. However the State Legislature did not act on the Bill containing these revisions and, therefore, the revised water quality standards did not become effective. The State's schedule for adoption is not known at this time.

Tennessee

The State has adopted human health criteria (based on MCLs) and is expected to adopt additional criteria based on MCLs, EPA's Section 304(a) criteria and methods, and current IRIS information. The State is expected to select a risk level of 10^{-6} . For the criteria based on MCLs, the State assumed exposure through water consumption. For the criteria based on EPA Section 304(a) guidance, the State assumed exposure through fish consumption. The MCL-based criteria apply only to drinking water supplies, while the EPA Section 304(a) criteria apply to all waters. The State is expected to use EPA's water and fish consumption rates. A public hearing was held on the draft criteria on December 15, 1989. Current toxics criteria were last approved by EPA on June 26, 1987.

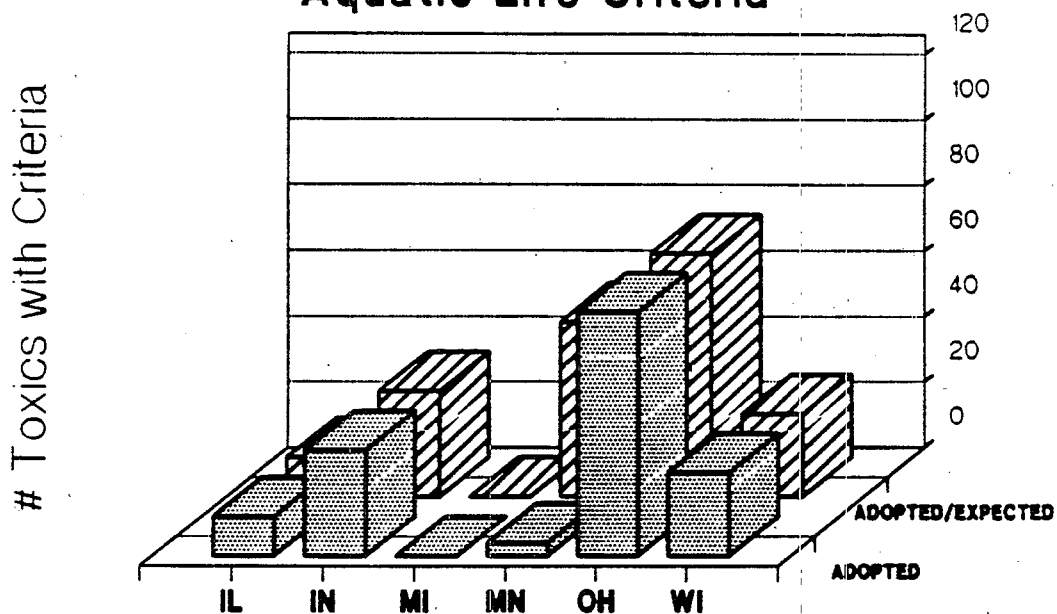
Region V

Number of Toxics with Criteria Adopted for Region V States

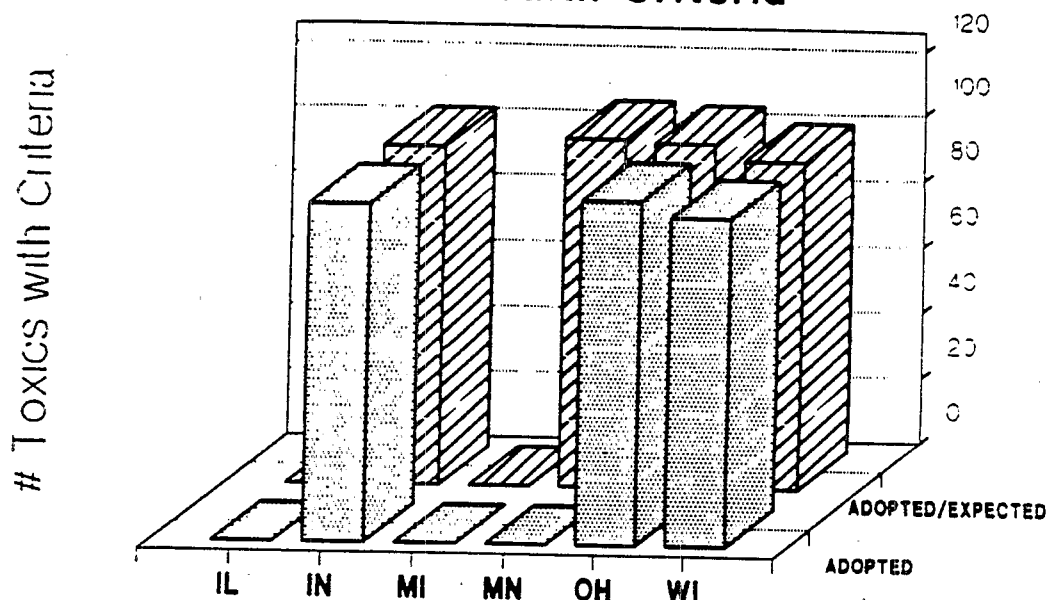
	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
IL	12	0	0	0	0	0	0	0	12	0	0	0
IN	32	0	103	0	0	0	0	0	32	0	103	0
MI	0	0	0	0	0	0	0	0	0	0	0	0
MN	4	0	0	0	53	0	106	0	53	0	106	0
OH	74	0	105	19	0	0	0	0	74	0	105	19
WI	25	0	100	24	0	0	0	0	25	0	100	24

* Michigan and Illinois adopted Option 3 translator procedures

Region V Aquatic Life Criteria



Region V Human Health Criteria



Region V Notes

Illinois

The State has adopted a translator procedure to augment existing numeric criteria for aquatic life protection. The package also includes translator procedures for human health criteria for drinking water, recreational, and consumption of fish exposure routes. The rules contain a 20 gram per day fish consumption rate assumption and a 10^{-6} risk level. The 10^{-6} risk level applies to individual carcinogens, but the rules provide for additive total risk for a given discharge of all carcinogens present up to 10^{-5} . The rules also include procedures to generate criteria for parameters which do not meet the minimum database requirements. The comprehensive package was adopted by the State on January 31, 1990 and were approved by EPA on February 15, 1990.

Indiana

The State adopted criteria for all 307(a) pollutants with 304(a) criteria consistent with Option 1 of the Section 303 (c)(2)(B) guidance on January 31, 1990. These standards are now under review by EPA. The standards package includes a 10^{-5} risk level, 6.5 grams per day fish consumption and restricted use of mixing zones. The last general approval of State standards occurred on November 1, 1984.

Michigan

Michigan has proposed adoption of current State guidelines (originally adopted in 1985) implementing an Option 3 approach into State rules in order to satisfy the scientific and administrative requirements in National 303(c)(2)(B) guidance. Because the State schedule for triennial review was completed in August of 1987, the State has been granted an extension of the deadline to August of 1990. The Michigan standards were last approved on August 4, 1987.

Minnesota

The State has proposed adoption of all 304(a) criteria recalculated based upon, for example, State-specific fish consumption rate (30 g/day), risk level (10-5) and recreational exposure assumptions (10 ml/day). Public hearings were begun February 1 and will close February 14, 1990. The State intends to have the new standards in place by June 1990. The most recent EPA approval occurred on March 23, 1989.

Ohio

The State adopted a standards package for 307(a) criteria based on a 10-5 risk level and a fish consumption value of 6.5 grams per day. The standards include an extensive set of numeric biological criteria. The numeric criteria for human health protection are taken from USEPA 304(a) criteria guidance. The State adopted the standards rules on February 1, but will delay their effective date until May 1 when the revised WLA procedures manual is completed. Region V has not yet received Ohio's complete formal submission of the rules for review, but has tentatively agreed to the delay in the rules' effective date. The State's standards were last approved on May 26, 1989.

Wisconsin

Wisconsin has adopted criteria for 307(a) pollutants under Option 2 (EPA approved on May 15, 1989). The rules include human health criteria using a 20 gram per day fish consumption value, a 10-5 risk level, and a 10 ml/day recreational exposure assumption. The one exception to approval was a conditional approval of the aroclor-specific approach to regulating PCBs which the State has agreed to amend by May 15, 1990.

All States

All States within the Region have included provisions for implementing narratives for parameters which do not meet the minimum database requirements for formal adoption of criteria. In addition, several States have adopted or are considering criteria to protect wildlife from exposure to toxics through the aquatic food chain. All States within the Region have specific use designations for both aquatic life and human uses of waterbodies, and have derived criteria reflecting characteristics

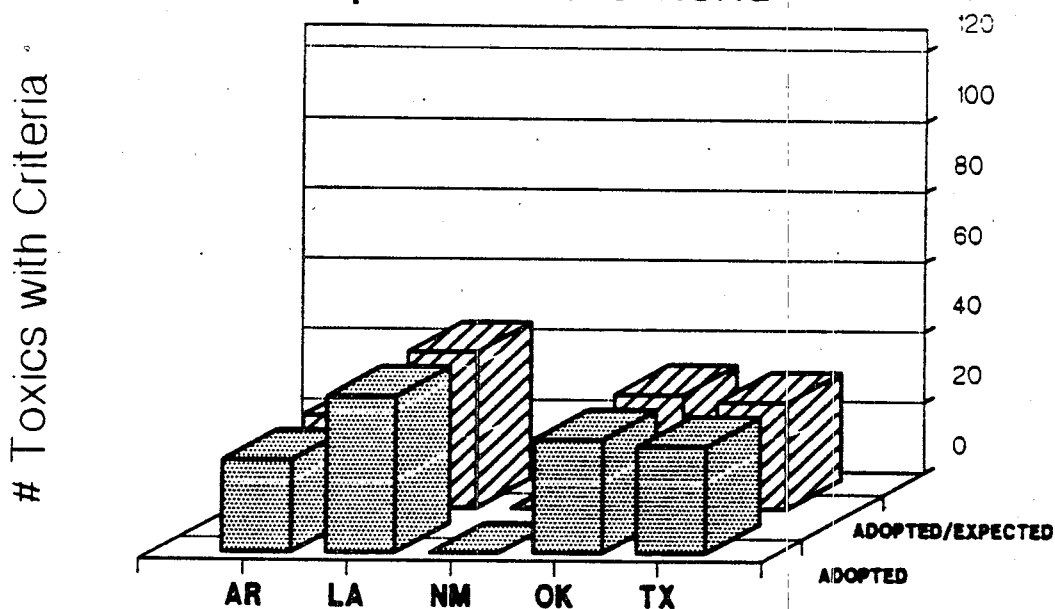
of these use designations (e.g., fish lipid content and species composition, human water consumption rates, etc.).

Region VI

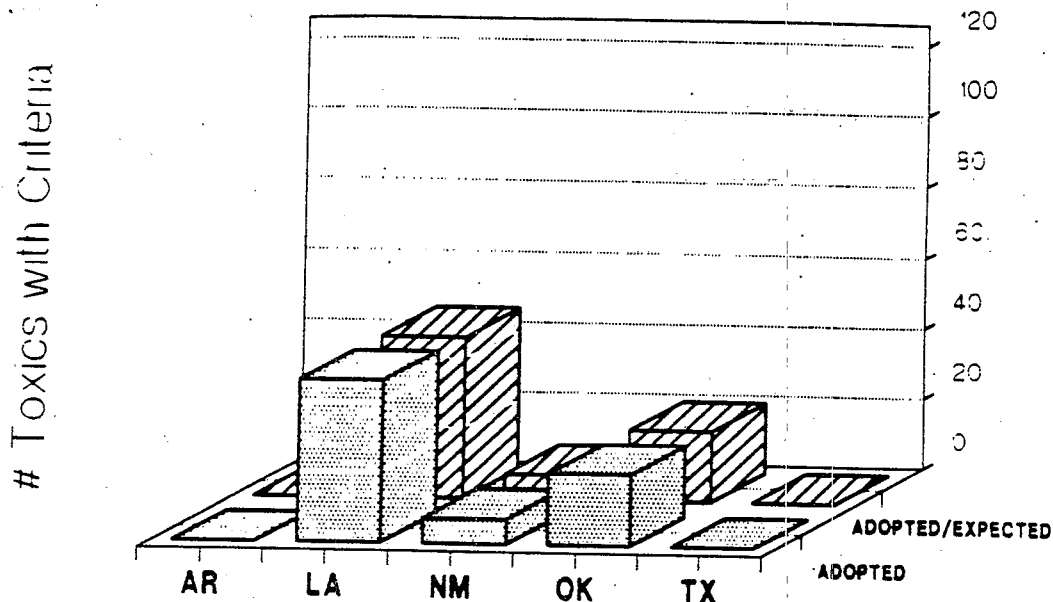
Number of Toxics with Criteria Adopted for Region VI States

	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
AR	26	0	0	0	0	0	0	0	26	0	0	0
LA	44	40	46	0	0	0	0	0	44	40	46	0
NM	0	0	7	0	0	0	0	0	0	0	7	0
OK	32	0	20	15	0	0	0	0	32	0	20	15
TX	30	30	0	0	0	0	0	0	30	30	0	0

Region VI Aquatic Life Criteria



Region VI Human Health Criteria



Region VI Notes

Arkansas

No human health criteria are adopted or expected at present. The State has not demonstrated that human health criteria are not required under CWA Section 303(c)(2)(B). Currently adopted aquatic life criteria were last approved by EPA on May 6, 1988.

Louisiana

A few of Louisiana's criteria are based on MCLs or taste and odor considerations. The majority, however, are derived considering fish consumption, incidental ingestion and, where designated as a public water supply, water ingestion. The latest RfDs and cancer potency slopes from IRIS were used where available. Where not available, these values were extracted from water quality criteria documents and applied to the equations published in the November 1980 Federal Register notice. Louisiana has selected a risk level of 10^{-6} for carcinogens. Louisiana uses a two number approach for human health criteria: (1) criteria for waters designated fishable/swimmable (this is essentially all State waters), and (2) criteria with the additional designated use of public water supply. Louisiana assumed exposure through fish consumption (20 g/day) and water consumption (2 l/ water consumption, 89 ml/day incidental ingestion). Currently adopted criteria were last approved by EPA on December 19, 1989.

New Mexico

New Mexico's human health criteria, only applicable to stream segments designated as public water supply, were derived using MCLs and apply to raw water. No state-selected risk level is specified. The MCLs were derived using the assumption of 2 l/day water ingestion. Existing criteria were last approved by EPA on May 31, 1988.

The State is expected to adopt aquatic life criteria for metals in FY 1990, though details of the State proposal are not yet available.

Oklahoma

The criteria are MCLs or MCL-based. No risk level is specified in the WQS. The MCLs are applicable in waterbodies designated as "Public and Private Water Supply." MCLs are derived using the assumption of 2 l/day water intake. Existing criteria were last approved by EPA in January of 1990.

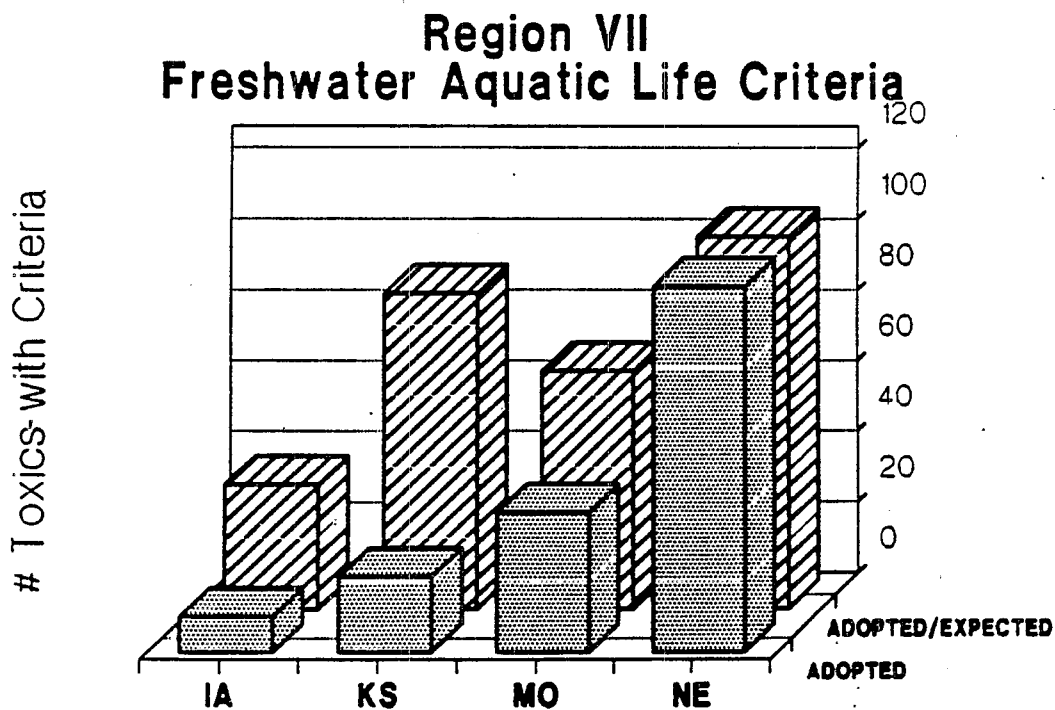
Texas

No human health criteria are adopted at present. It is expected that in FY 1990 Texas will adopt human health criteria, possibly for dioxin, PCBs, and several organics. At present, however, details regarding the State proposal are not available. Existing criteria were last approved by EPA on April 29, 1988.

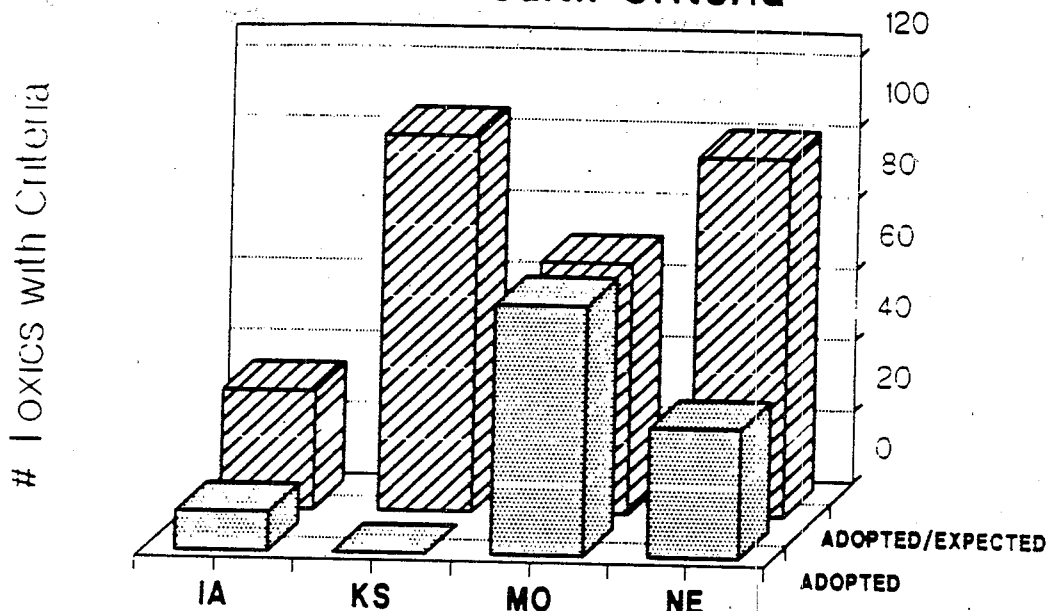
Region VII

Number of Toxics with Criteria Adopted for Region VII States

	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
IA	10	0	11	0	34	0	22	0	35	0	33	0
KS	21	0	0	8	74	0	105	2	89	0	105	10
MO	39	0	70	6	28	0	28	0	67	0	70	6
NE	103	0	36	0	2	0	75	0	105	0	100	0



Region VII Human Health Criteria



Region VII Notes

Iowa

Iowa's present human health criteria are generally based on National Interim Primary Drinking Water Regulations for inorganics and MCLs for organics and apply to the point of withdrawal at designated water supply segments. Existing criteria were last approved by EPA in August of 1985.

Iowa has proposed additional criteria (34 pollutants for aquatic life and 22 for human health). Of the 22 pollutants with proposed human health criteria, 7 cover just drinking water protection while 15 cover fish consumption protection. These are based on EPA's Gold Book values for 10-6 risk level for fish consumption and MCLs for drinking water protection. The State is still evaluating the need for additional human health criteria.

Kansas

On January 22, 1990, Kansas submitted to EPA a draft of extensive criteria revisions covering nearly all of the 307(a) priority pollutants for which EPA has criteria (74 pollutants with aquatic life and 105 pollutants with human health). The proposed human health criteria were based on EPA's Gold Book fish consumption and/or water and fish consumption values at a 10-6 risk level. These human health criteria cover 105 of the 126 priority pollutants (basically, option 1) and the State will demonstrate

no human health issues exist for the small number of parameters for which no criteria were proposed. Kansas will start a formal State adoption process in February and has a schedule leading to adopted revisions and submittal to EPA by June 1990. Existing criteria were last approved by EPA on June 19, 1986.

Missouri

In December 1987, Missouri adopted human health criteria for 69 priority pollutants using EPA Gold Book 10-6 risk levels and exposure factors or MCLs in the case of drinking water only values. EPA last approved these on October 13, 1989, following minor revisions.

The State is still evaluating the addition of more criteria and submitted a preliminary draft of 28 additional criteria in January 1990.

Nebraska

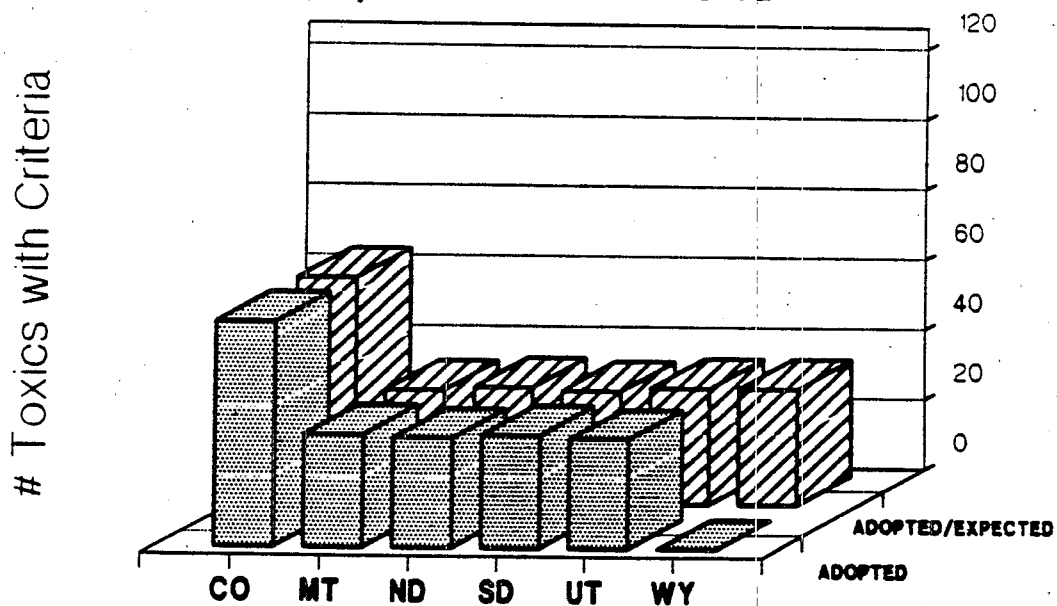
In January 1990, EPA received a submittal from Nebraska containing a very extensive set of proposed human health criteria providing protection for fish consumption at a 10-5 risk level using EPA Gold Book exposure factors (option 1 approach). The State Environmental Control Commission adopted these criteria (2 pollutants with aquatic life and 75 with human health) on February 16, 1990, and official submittal to EPA is expected by April 1990. Nebraska has already adopted drinking water supply criteria for 22 priority pollutants using EPA's MCL or Gold Book values. Existing criteria were last approved by EPA in October of 1988.

Region VIII

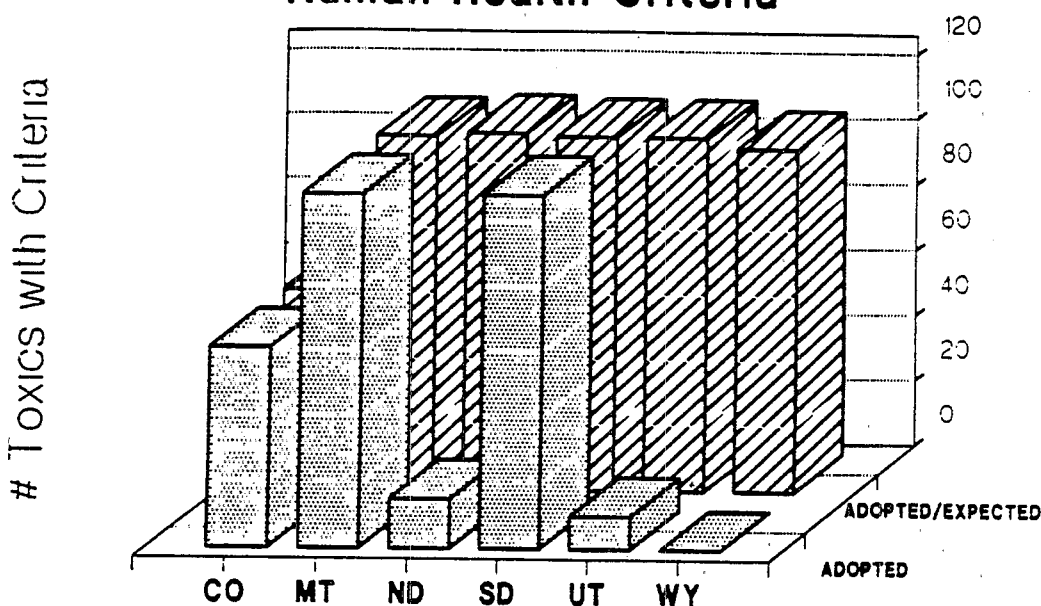
Number of Toxics with Criteria Adopted for Region VIII States

	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
CO	64	0	61	9	0	0	0	0	64	0	61	9
MT	32	0	108	0	0	0	0	0	32	0	108	0
ND	31	0	15	0	2	0	108	0	33	0	109	0
SD	32	0	108	0	0	0	0	0	32	0	108	0
UT	31	0	10	6	2	0	108	0	33	0	108	6
WY	0	0	0	0	33	0	105	0	33	0	105	0

Region VIII Aquatic Life Criteria



Region VIII Human Health Criteria



Region VIII Notes

Colorado

Colorado's current human health standards were adopted August 7, 1989. The State has adopted acute and chronic numerical aquatic life standards for 64 pollutants, including all 32 pollutants for which EPA has published criteria. The State has also adopted health-based criteria for 61 priority pollutants. Colorado's standards are currently under review by EPA.

Colorado has two categories of human health criteria - carcinogens and non-carcinogens. For carcinogens, standards are based on MCLs where EPA has developed such limits. Where there are no MCLs, values are based on a calculated 10^{-6} risk level using information in IRIS. For non-carcinogens, standards are based on MCLs where EPA has adopted MCLs, or lifetime exposure levels derived from reference dose information in IRIS or lifetime drinking water health advisories. The human health criteria apply only to waters classified for water supply uses. Since data for values other than MCLs were calculated based on IRIS data, no special assumptions were made about rates of water consumption. Colorado did not consider the fish consumption exposure pathway in any of their human health criteria.

Montana

Montana has adopted the Gold Book by reference. Although not specifically spelled out in their standards, the hearing record

notes that the carcinogenic risk level adopted is 10⁻⁶. This has been confirmed in a letter from the State explaining that this oversight will be corrected in the standards. No special assumptions/applications for routes/rates of exposure were made. EPA approved the Montana toxics criteria on March 8, 1989.

North Dakota

North Dakota currently has very few specific human health standards. Their general use classifications include both water supply and aquatic life uses. The State recently adopted criteria for 31 substances for which EPA has aquatic life criteria. EPA expects to grant partial approval in March, 1990. Where a human health MCL was more stringent than the aquatic life value, the State adopted the MCL (e.g., arsenic). Thus, there are very few specific "human health" values, but the aquatic life values adopted will also provide human health protection for those substances (e.g., metals). Where there is a specific human health value, it is a MCL. North Dakota is planning to fulfill the remaining 303(c)(2)(B) requirements via an option 1 approach by September 30, 1990. The State is expected to adopt aquatic life criteria for 2 additional priority pollutants and human health criteria for 108 priority pollutants.

South Dakota

South Dakota adopted the Gold Book by reference. The Standards do not specify a risk level for carcinogens, but State staff intend to use 10⁻⁶ in implementing the new standards.

Utah

Utah has adopted a number of MCLs and drinking water-based standards which apply to water supply segments (domestic source 1C). No special routes of exposure were assumed. They used EPA MCLs where available. Utah did not address the 303(c)(2)(B) human health requirements in their latest standards revision. To meet the February 4, 1990 deadline, Utah intends to complete an option 1 approach by September 30, 1990. It is expected that aquatic life criteria will be adopted for 2 additional priority pollutants and human health criteria will be adopted for 108 priority pollutants.

Wyoming

Wyoming currently has one health-based criterion for a toxicant (benzidine). The proposed standards will rectify this situation. For health-based standards, Wyoming is proposing Gold Book values with both water and contaminated organism routes of exposure. They propose to use 10⁻⁶ as the risk level for carcinogens. Wyoming omitted from the proposal several EPA recommendations based solely on organoleptic effects. Wyoming's proposal includes aquatic life criteria for 33 priority pollutants. The proposal has been through several public meetings, and the final rulemaking is now scheduled for May 22, 1990.

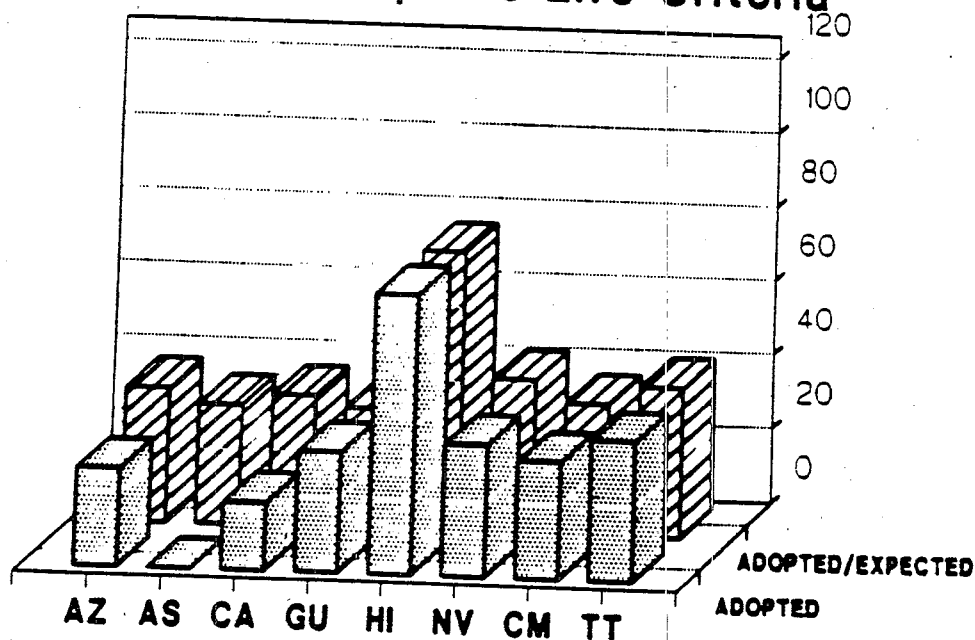
Region IX

Number of Toxics with Criteria Adopted for Region IX States

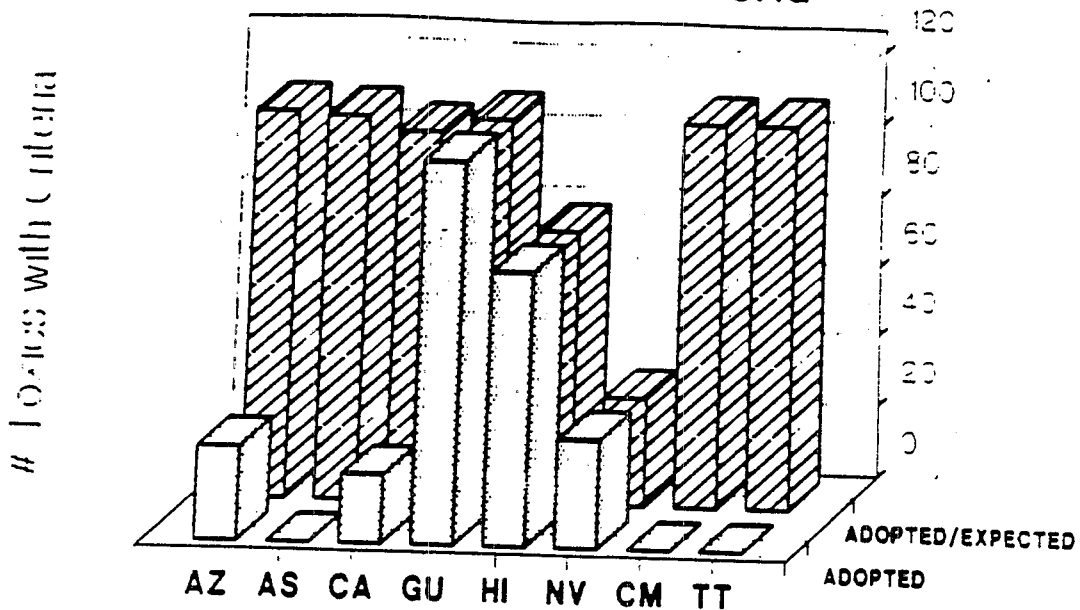
	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
AZ	26	0	26	0	32	0	109	0	36	0	109	0
AS	0	0	0	0	32	32	108	0	32	32	108	0
CA	18	30	19	0	33	34	103	0	35	39	104	0
GU	32	32	108	0	0	0	0	0	32	32	108	0
HI	75	61	77	0	0	0	0	0	75	61	77	0
NV	35	0	30	1	34	0	0	0	4	0	30	1
CM	31	31	0	0	4	4	108	0	35	35	108	0
TT	37	37	0	0	3	3	108	0	40	40	108	0

Region IX Freshwater Aquatic Life Criteria

Toxics with Criteria



Region IX Human Health Criteria



Region IX Notes

Arizona

Arizona is expected to update existing toxics criteria to include criteria for all pollutants for which EPA has issued Section 304(a) guidance. Arizona is on a schedule to adopt criteria by July of 1990. Existing criteria were last approved by EPA on September 26, 1986.

State staff have indicated that human health criteria based on water and fish ingestion will be adopted for all waters based on 304(a) criteria using a fish consumption level of 6.5 g/day and IRIS and 10-6 risk level for carcinogens. These expected criteria will supplement existing human health criteria.

American Samoa

American Samoa proposed toxics criteria in January of 1990. The January proposal includes human health criteria based on water and fish ingestion in fresh waters and fish consumption only for marine waters using 304(a) criteria and 10-6 risk level for carcinogens. American Samoa is expected to adopt these criteria in April of 1990.

California

California is on a schedule to adopt toxics criteria in July of

1990. Criteria have been proposed for both marine waters and fresh and estuarine waters (separate actions).

The State has proposed human health protection based on fish consumption only for marine water and based on water and fish ingestion for fresh waters using 304(a) criteria modified by IRIS and a fish consumption level of 23 g/day. They propose a 10-6 risk level for ocean waters. They are expected to use 10-5 or 10-6 for fresh and estuarine waters.

Hawaii

On January 18, 1990, the State adopted additional criteria for aquatic life and human health. These WQS have not yet been submitted to EPA for review. Hawaii is expected to adopt additional aquatic life and human health criteria during FY 1990 or submit an acceptable rationale for not adopting additional criteria. Details regarding any additional criteria are not yet available.

The State human health criteria are based on fish consumption only for all waters using 304(a) criteria modified to a fish consumption level of 19.9 g/day and 10-6 risk level of carcinogens. They supplement this protection for waters designated for domestic water supply by discharge prohibition provisions.

Nevada

Nevada is expected to adopt additional criteria for aquatic life uses in the spring of 1990. These criteria were originally proposed in May of 1988.

Human health criteria adopted for 30 parameters remain in effect and will not be modified by the action to be taken in this spring. These existing human health criteria are based on EPA drinking water criteria.

Commonwealth of the Northern Mariana Islands

The Commonwealth of the Northern Mariana Islands is expected to adopt all EPA aquatic life and human health criteria guidance not already adopted. Draft WQS have not yet been submitted for EPA review.

Staff have indicated that human health criteria will be adopted based on water and fish ingestion in fresh waters and fish consumption only for marine waters using 304(a) criteria and 10-6 risk level for carcinogens.

Trust Territories

The Trust Territories are expected to adopt all EPA aquatic life and human health criteria guidance not already adopted. Draft

WQS have been submitted to EPA for review and comment.

The draft WQS include human health criteria based on water and fish ingestion in fresh waters and fish consumption only for marine waters using 304(a) criteria and 10^{-6} risk level for carcinogens.

Guam

Guam adopted standards very similar to what the other Territories have proposed.

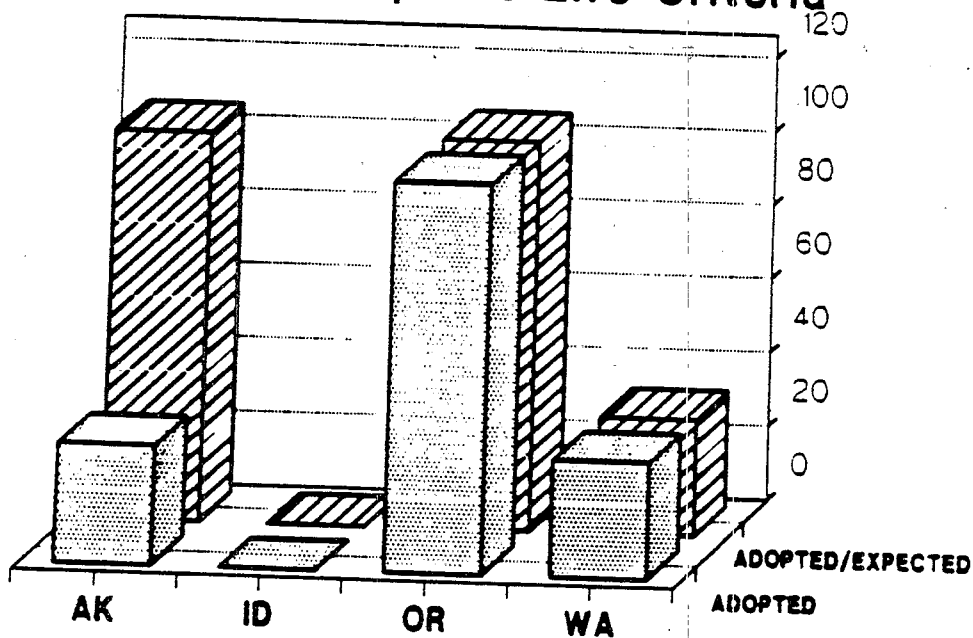
Region X

Number of Toxics with Criteria Adopted for Region X States

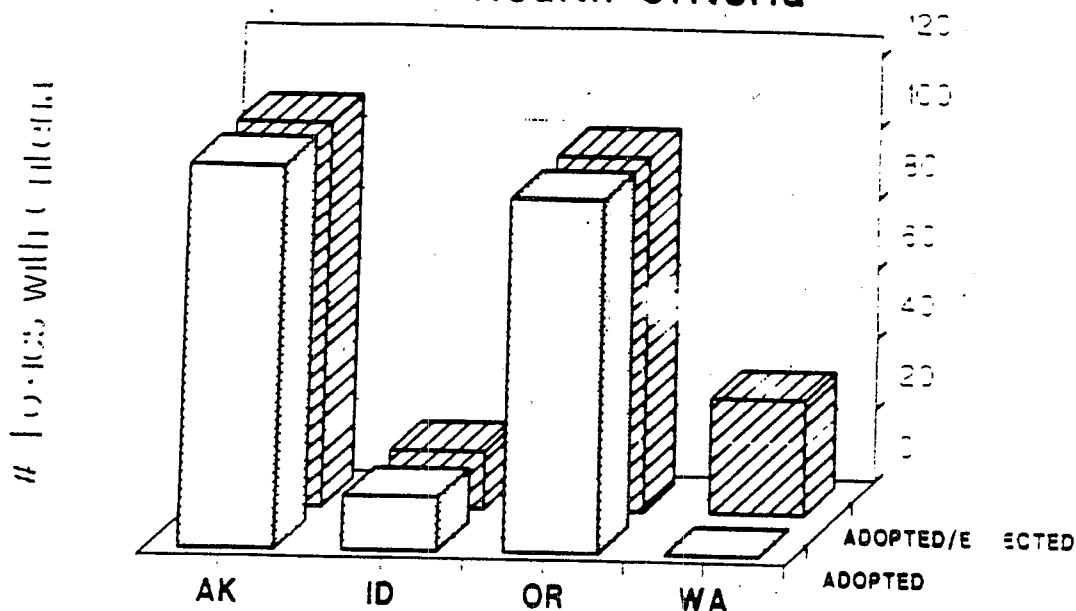
	Total ADOPTED				Revisions/Additions EXPECTED				Total ADOPTED/EXPECTED			
	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH	FRSH	MAR	HH	OTH
AK	32	32	108	0	73	70	0	0	105	102	108	0
ID	0	0	16	0	0	0	1	0	0	0	16	0
OR	105	102	100	0	0	0	0	0	105	102	100	0
WA	31	31	0	0	0	0	32	0	31	31	32	0

Region X Freshwater Aquatic Life Criteria

Toxics with Criteria



Region X Human Health Criteria



Region X Notes

Alaska

The State has adopted all EPA published criteria by reference. This reference is expected to be updated to include all EPA published lowest observed effect levels (LOELs) for aquatic life. Where EPA Section 304(a) human health recommendations differ from EPA drinking water MCLs, Alaska will likely adopt the MCLs. The current review is addressing this issue.

To provide protection to human health, Alaska has adopted all EPA criteria by reference. Such criteria are applicable to waters designated for water supply, water recreation, and aquatic life protection (all State waters). The State WQS currently do not specify a risk level; the risk level will be examined during the triennial review. Existing criteria were last approved on November 7, 1988.

Idaho

The State is expected to adopt a human health criterion for dioxin (2,3,7,8-TCDD) because this pollutant is associated with CWA Section 304(l) short list waters.

For human health, Idaho has adopted drinking water MCLs for selected parameters and is expected to adopt dioxin criteria for the Clearwater/Snake Rivers. The adopted criteria are applicable

only to domestic water supplies. The Snake/Clearwater River dioxin criteria are expected to be based on EPA 304(a) guidance and a risk level of 10^{-6} .

Oregon

Oregon has adopted most of the EPA 304(a) water and fish consumption criteria, as well as drinking water MCLs. Such human health criteria are applicable to all basins. The human health criteria for carcinogens (which are based on EPA 304(a) guidance) are based on a risk level of 10^{-6} . Existing criteria were last approved by EPA on March 9, 1988.

Washington

Human Health criteria are expected to be adopted for all pollutants for which aquatic life criteria have already been adopted. Adoption is hoped for in the triennial review due for completion in FY 1991 (now scheduled for June, 1991). A dioxin criterion is expected because it was identified on State 304(1) list.

Washington has not yet adopted any human health based criteria for priority pollutants, but is expected to adopt some criteria based on EPA 304(a) water and fish consumption criteria. The criteria for carcinogens are expected to be based on a risk level of 10^{-6} . Existing criteria for aquatic life were last approved by EPA on March 4, 1988.

V - APPENDICES

Appendix 1

CWA Section 303(c)(2)(B)

"Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to section 307(a)(1) of this Act for which criteria have been published under section 304(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to section 304(a)(8). Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based upon or involving biological monitoring or assessment methods or previously adopted numerical criteria."

Appendix 2

List of 126 Priority Pollutants

Priority Pollutant	No. States ¹ w/Criteria Adopted	No. States ¹ w/Criteria Adopted/Expected
Acenaphthene	16	31
Acrolein	17	34
Acrylonitrile	17	33
Benzene	21	44
Benzidine	23	38
Carbon Tetrachloride	20	41
Cholorobenzene	18	36
1,2,4-trichlorobenzene	8	11
Hexachlorobenzene	19	35
1,2-dichloroethane	20	40
1,1,1-trichloroethane	19	41
Hexachlorethane	17	33
1,1-dichlorethane	1	2
1,1,2-trichlorethane	18	35
1,1,2,2-tetrachlorethane	19	36
chloroethane	1	1
Bis (2-chloroethyl) ether	17	33
2-chloroethyl vinyl ether	5	8
2-chloronapthalene	4	5
2,4,6-trichlorophenol	19	35
Parachlorometa cresol	16	30
Chloroform	22	39
2-chlorophenol	20	34
1,2-dichlorobenzene	18	35
1,3-dichlorobenzene	18	35
1,4-dichlorobenzene	19	38
3,3-dichlorobenzidine	15	31
1,1-dichloroethylene	19	41
1,2-trans-dichloroethylene	9	14
2,4-dichlorophenol	20	36
1,2-dichloropropane	6	8
1,2-dichloropropylene	17	32
2,4-dimethylphenol	14	28
2,4-dinitrotoluene	16	33
2,6-dinitrotoluene	7	8
1,2-diphenylhydrazine	16	32
Ethylbenzene	18	35
Fluoranthene	17	34
4-chlorophenyl phenyl ether	3	5
4-bromophenyl phenyl ether	4	6
Bis (2-chloroisopropyl) ether	15	31
Bis (2-chloroethoxy) methane	3	9
Methylene chloride	17	36
Methyl chloride	16	33

Appendix 2
(continued)

List of 126 Priority Pollutants

Priority Pollutant	No. States ¹ w/Criteria Adopted	No. States ¹ w/Criteria ¹ Adopted/Expected
Methyl bromide	15	32
Bromoform	19	37
Dichlorobromomethane	19	37
Chlorodibromomethane	17	35
Hexachlorobutadiene	20	37
Hexachlorocyclopentadiene	18	34
Isophorone	17	33
Naphthalene	8	10
Nitrobenzene	18	34
2-nitrophenol	6	8
4-nitrophenol	7	9
2,4-dinitrophenol	17	33
4,6-dinitro-o-cresol	14	32
N-nitrosodimethylamine	16	32
N-nitrosodiphenylamine	15	31
N-nitrosodi-n-propylamine	8	11
Pentachlorophenol	27	46
Phenol	33	43
Bis (2-ethylhexyl) phthalate	23	38
Butyl benzyl phthalate	12	13
Di-n-butyl phthalate	22	37
Di-n-octyl phthalate	10	12
Diethyl phthalate	21	34
Dimethyl phthalate	22	36
1,2-benzanthracene	15	34
Benzo (a) pyrene	16	36
3,4-benzofluoranthene	15	34
11,12-benzofluoranthene	15	34
Chrysene	15	34
Acenaphthylene	14	33
Anthracene	15	34
1,12 benzopyrylene	15	34
Fluorene	14	33
Phenanthrene	15	34
1,2,5,6-dibenzanthracene	16	35
Indeno (1,2,3-cd) pyrene	15	34
Pyrene	15	34
Tetrachloroethylene	20	40
Toluene	20	38
Trichloroethylene	20	42
Vinyl chloride	19	39
Aldrin	40	51

Appendix 2
(continued)

List of 126 Priority Pollutants

Priority Pollutant	No. States ¹ w/Criteria Adopted	No. States ¹ w/Criteria ¹ Adopted/Expected
Dieldrin	39	51
Chlordane	38	50
4,4-DDT	37	51
4,4-DDE	17	33
4,4-DDD	18	34
Alpha-endosulfan	36	48
Beta-endosulfan	36	49
Endosulfan sulfate	23	33
Endrin	41	52
Endrin aldehyde	13	25
Heptachlor	37	49
Heptachlor epoxide	16	30
Alpha-BHC	19	35
Beta-BHC	19	36
Gamma-BHC (lindane)	38	51
Delta-BHC	7	10
PCB-1242	40	51
PCB-1254	40	51
PCB-1221	40	51
PCB-1232	40	51
PCB-1248	40	51
PCB-1260	40	51
PCB-1016	40	51
Toxaphene	41	52
Antimony	19	35
Arsenic	42	53
Asbestos	9	24
Beryllium	24	39
Cadmium	43	53
Chromium	45	54
Copper	39	50
Cyanide	42	52
Lead	43	53
Mercury	43	53
Nickel	34	50
Selenium	45	54
Silver	44	53
Thallium	19	37
Zinc	40	51
Dioxin (2,3,7,8-TCDD)	19	42

(1) State has numeric criteria for one or more uses.

Appendix 3

Risk Levels For Carcinogens Selected by States

Region	State	Risk Level Adopted	Risk Level Expected	Region	State	Risk Level Adopted	Risk Level Expected
I	CT			VI	AR		
	ME	10^{-6}			LA	10^{-6}	
	MA		10^{-6}		NM		
	NH		10^{-6}		OK		10^{-5}
	RI				TX		10^{-5}
II	VT			VII	IA		10^{-6}
	NJ				KS		10^{-6}
	NY	10^{-6}			MO	10^{-6}	
	PR		10^{-5}		NE		10^{-5}
	VI			VIII	CO	10^{-6}	
III	DE	10^{-6}			MT	10^{-6}	(5)
	DC	10^{-6}			ND		10^{-6}
	MD		10^{-5}		SD	10^{-6}	(6)
	PA	10^{-6}			UT		10^{-6}
	VA				WY		10^{-6}
	WV	10^{-6}		IX	AZ		10^{-6}
					AS		10^{-6}
IV	AL	10^{-5}			CA		$10^{-5}/10^{-6}$
	FL		10^{-6}		CU	10^{-6}	
	GA	10^{-6}	(1)		HI	10^{-6}	
	KY		10^{-6}		NV		10^{-6}
	MS		10^{-6}		CM		10^{-6}
	NC	10^{-6}	(2)		TT		10^{-6}
	SC			X	AK	10^{-6}	(7)
V	TN		10^{-6}		ID		10^{-6}
			(3)		OR	10^{-6}	
	IL	10^{-6}	(4)		WA		10^{-6}
	IN	10^{-5}					
	MI	10^{-5}					
	MN		10^{-5}				
	OH	10^{-5}					
	WI	10^{-5}					

Appendix 3
(continued)

Risk Levels For Carcinogens Selected by States

NOTES:

- (1) PCB and dioxin emergency criteria are purported to be at a risk level of 10^{-5} .
- (2) Except for dioxin, which has a risk level of 10^{-5} .
- (3) For dioxin, the State proposed a criterion based on the conclusion that dioxin has a threshold value below which there is no risk.
- (4) Illinois adopted a risk level of 10^{-6} for individual carcinogens, but will allow cumulative risk (additive) up to a total of 10^{-5} for discharges of risk-limited contaminants.
- (5) Although not specifically identified in the State WQS, the hearing record notes that the carcinogenic risk level adopted is 10^{-6} .
- (6) WQS do not identify risk level; State staff intend to use 10^{-6} .
- (7) The risk level of 10^{-6} is now assumed, with the State's concurrence. Reference to EPA criteria guidance in State WQS will be updated in FY 1990 triennial review to specify a risk level (10^{-6} expected).

Appendix 4

Exposure Assumptions Used by States in Setting Human Health Criteria

Region	State	ARE WQS EXPECTED OR ADOPTED?	WATER CONSUMPTION RATE	ORGANISM CONSUMPTION RATE
I	ME	ADOPTED	2 1/day	6.5 g/day
	NH	EXPECTED	2 1/day	6.5 g/day
II	NJ	ADOPTED	2 1/day	
	NY	ADOPTED	2 1/day	33 g/day
	PR	ADOPTED	2 1/day	
III	DE	ADOPTED	2 1/day	Freshwater = 5.2 g/day Saltwater = 37 g/day
	DC	ADOPTED	2 1/day	6.5 g/day
	MD	EXPECTED	2 1/day	6.5 g/day
	PA	ADOPTED	2 1/day	6.5 g/day
	VA	EXPECTED	2 1/day	6.5 g/day
	WV	ADOPTED	2 1/day	UNKNOWN
				6.5 g/day
IV	AL	ADOPTED	2 1/day	6.5 g/day
	FL	EXPECTED	2 1/day	6.5 g/day
	GA	ADOPTED		6.5 g/day
	KY	EXPECTED	2 1/day	6.5 g/day
	MS	EXPECTED	2 1/day	6.5 g/day
	NC	ADOPTED	2 1/day	6.5 g/day
	SC	EXPECTED	UNKNOWN	UNKNOWN
	TN	EXPECTED	2 1/day	6.5 g/day
V	IL	ADOPTED	2.01 1/day ²	20 g/day ¹
	IN	ADOPTED	2.01 1/day ²	6.5 g/day ¹
	MI	ADOPTED	2.01 1/day ²	6.5 g/day ¹
	MN	EXPECTED	2.01 1/day ²	30 g/day ¹
	OH	ADOPTED	2 1/day	6.5 g/day ¹
	WI	ADOPTED	2.01 1/day ²	20 g/day
VI	LA	ADOPTED	2.089 1/day ²	20 g/day
	NM	ADOPTED	2 1/day	
	OK	ADOPTED	2 1/day	

Appendix 4

Exposure Assumptions Used by States in Setting Human Health Criteria (continued)

Region	State	ARE WQS EXPECTED OR ADOPTED?	WATER CONSUMPTION RATE	ORGANISM CONSUMPTION RATE
VII	IA 3	ADOPTED	2 1/day	6.5 g/day
	KS	ADOPTED	2 1/day	6.5 g/day
	MO	ADOPTED	2 1/day	6.5 g/day
	NE	ADOPTED	2 1/day	6.5 g/day
VIII	CO	ADOPTED	2 1/day	
	MT	ADOPTED	2 1/day	
	ND	EXPECTED	2 1/day	6.5 g/day
	SD	ADOPTED	2 1/day	6.5 g/day
	UT	EXPECTED	2 1/day	6.5 g/day
	WY	EXPECTED	2 1/day	6.5 g/day
IX	AZ	EXPECTED	2 1/day	5.5 g/day
	AS	EXPECTED	2 1/day	5.5 g/day
	CA	EXPECTED	2 1/day	23 g/day
	GU	ADOPTED	2 1/day	6.5 g/day
	HI	ADOPTED	2 1/day	19.9 g/day
	NV	EXPECTED	2 1/day	6.5 g/day
	CM	EXPECTED	2 1/day	6.5 g/day
	TT	EXPECTED	2 1/day	6.5 g/day
				6.5 g/day
X	AK	ADOPTED	2 1/day	6.5 g/day
	ID	ADOPTED	2 1/day	6.5 g/day
	OR	ADOPTED	2 1/day	6.5 g/day
	WA	EXPECTED	2 1/day	6.5 g/day

NOTES:

- (1) Region 5 has advised or will advise State that 6.5 g/day is an inappropriately low assumption.
- (2) State has assumed exposure via incidental consumption of water resulting from recreational activities. For Louisiana, this assumption was an additional 89 ml/day. For Region 5 States, this assumption was an additional 10 ml/day.
- (3) Current Kansas criteria are for non-307(a) pollutants.

Appendix 5

State Selected Options¹ to Comply with CWA Section 303(c)(2)(B)

Region	State	Option	Region	State	Option
I	CT	1 & 3	VI	AR	2
	ME	1 & 3		LA	2
	MA	1 & 3		NM	2
	NH	1 & 3		OK	2
	RI	1 & 3		TX	2
	VT	1 & 3			
II	NJ	2	VII	IA	2
	NY	2		KS	1
	PR	2		MO	1
	VI	2		NE	1
III	DE	2	VIII	CO	2
	DC	2		MT	1
	MD	2		ND	1
	PA	1 & 3		SD	1
	VA	?		UT	1
	WV	2		WY	1
IV	AL	2	IX	AZ	1
	FL	2		AS	1
	GA	1		CA	2
	KY	1		GU	1
	MS	2 & 3		HI	1
	NC	2 & 3		NV	1
	SC	2		CM	1
	TN	2		TT	1
V	IL	2 & 3	X	AK	1
	IN	1		ID	2
	MI	3		OR	1
	MN	1		WA	2
	OH	1			
	WI	2			

Notes:

- (1) As described on p. 6 and in December 1988 EPA Toxics Guidance

