



AN SAB REPORT: RECOMMENDATIONS ON THE 1999 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT (STAA) AWARD NOMINATIONS

**A REPORT BY THE SCIENTIFIC
AND TECHNOLOGICAL
ACHIEVEMENT AWARDS
SUBCOMMITTEE OF THE
SCIENCE ADVISORY BOARD**

August 14, 2000

EPA-SAB-EC-00-014

Honorable Carol M. Browner
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: Science Advisory Board (SAB) Award Recommendations for the 1999
Scientific and Technological Achievement Awards (STAA) Program

Dear Ms. Browner:

The Science Advisory Board's (SAB) Scientific and Technological Achievement Awards (STAA) Subcommittee has completed its review of the nominations submitted by the Agency for the 1999 awards program. The Subcommittee conducted its review in closed session on June 22-23, 2000 in Washington, DC. The results of the Subcommittee's efforts were reviewed and approved by the Science Advisory Board's Executive Committee at a public meeting held in the Environmental Research Center in RTP, NC on July 12-13, 2000.

As you are aware, the STAA program is sponsored by the Office of Research and Development (ORD), which continues to do a creditable job in soliciting and assembling these nominations. Each year (except for 1995 during the government-wide shutdown) the Board convenes a special panel to review nominated papers published by Agency researchers. Our recommendations for awards and further improvements in the STAA program are discussed in the enclosed report.

The Agency solicited nominations in eleven categories this year: Control Systems & Technology (CS), Ecology & Ecosystem Risk Assessment (EC), Health Effects & Health Risk Assessment (HE), Monitoring & Measurement Methods (MM), Transport & Fate (TF), Review Articles (RA), Risk Management and Policy Formulation (RM), Integrated Risk Management (IR), Environmental Trends for Drivers of Future Risk (ET), Social Science Research (SS), and Environmental Education (EE). Agency scientists and engineers submitted a total of 102 nominations from among the first nine

categories. Nominations were not submitted for the last two categories this year (SS, and EE). During its review, the Subcommittee recommended that several individual nominations be combined and/or re-categorized. A total of 41 were recommended for an award.

Recommendations are included for awards in seven of the nine categories for which nominations were submitted. Several nominations were submitted in the Environmental Trends for Drivers of Future Risk (ET) and Integrated Risk Management (IR) categories, and while awards were not recommended for these nominations, the Subcommittee was encouraged to see nominations in these categories and hopes to see additional nominations in the future. In addition, the Subcommittee is recommending 20 papers for Honorable Mention. The authors recommended for awards this year are from 12 research laboratories and centers within the Office of Research and Development, and from Region VI.

The Subcommittee continues to encourage the Agency to nominate peer-reviewed papers from all programs and areas of scientific and technological research because scientific and technological achievements in these areas should not be limited to ORD laboratories. The process of publishing EPA scientific findings in peer reviewed journals enhances the rigor of the science and the reputation of the Agency and its programs. Managers should encourage and provide the opportunities for their program scientists and engineers to conduct challenging investigations and publish the data and technical analysis which address aspects of the Agency's policies and regulations.

As we have pointed out in each of our recent reports, the Subcommittee noted with great disappointment, the lack of a significant number of nominations from Program areas other than ORD. Nevertheless, the Subcommittee commends the staff of ORD for administering the STAA program. The ORD staff has made significant improvements in the program and in the nomination packages which have facilitated the Subcommittee's review procedures. The Subcommittee strongly recommends that ORD management continue to solicit participation of other Agency scientists and engineers as part of the Agency's goals to improve its scientific underpinnings and peer review of regulatory science. We recommend that ORD continue to announce this program early and that additional efforts be made to advertise it even more broadly next year to ensure greater participation by all program areas of the Agency.

The Subcommittee continues to feel that the STAA program is an important mechanism for recognizing and promoting high quality, peer-reviewed work published in top scientific and technological journals. This is even more critical as Agency programs continue to improve their overall commitment to, and compliance with your Peer Review Policy and the Agency's Peer Review Handbook. Furthermore, it supports your emphasis on sound science forming the basis for sound decisions.

We are pleased to have participated in this process once again and believe it is appropriate for the Board to continue this annual review function. We would appreciate being

informed of the final disposition of awards. We look forward to serving the Agency again in this important activity.

Sincerely,

/s/

Dr. Morton Lippmann, Interim Chair
Science Advisory Board

/s/

Dr. C. H. Ward, Chair
Scientific and Technological Achievement
Awards Subcommittee
Science Advisory Board

NOTICE

This report has been written as part of the activities of the Science Advisory Board, a public advisory group providing extramural scientific information and advice to the Administrator and other officials of the Environmental Protection Agency. The Board is structured to provide balanced, expert assessment of scientific matters related to problems facing the Agency. This report has not been reviewed for approval by the Agency and, hence, the contents of this report do not necessarily represent the views and policies of the Environmental Protection Agency, nor of other agencies in the Executive Branch of the Federal government, nor does mention of trade names or commercial products constitute a recommendation for use.

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public, and is posted on the SAB website (www.epa.gov/sab). Information on its availability is also provided in the SAB's monthly newsletter (*Happenings at the Science Advisory Board*). Additional copies and further information are available from the SAB Staff.

ABSTRACT

This report represents the conclusions and recommendations of the U.S. Environmental Protection Agency's Science Advisory Board regarding the 1999 EPA Scientific and Technological Achievement Awards (STAA) Program. The STAA Program is an Agency-wide competition to promote and recognize scientific and technological achievements by EPA employees, fostering a greater exposure of EPA research to the public. The Program was initiated in 1980 and is managed by the Office of Research and Development (ORD).

The Agency submitted for review 102 nominations from the first nine of the eleven award categories this year (Control Systems & Technology, Ecology & Ecosystem Risk Assessment, Health Effects & Health Risk Assessment, Monitoring & Measurement Methods, Transport & Fate, Review Articles, Risk Management and Policy Formulation, Integrated Risk Management, Environmental Trends for Drivers of Future Risk, Social Science Research, and Environmental Education). Of these, the Subcommittee recommended 41 nominations (40 percent of the nominations) for awards at two of the three levels and also recommended that twenty additional papers be recognized with Honorable Mention. The Subcommittee encouraged the Agency to continue support for the STAA program as a mechanism for recognizing and promoting high quality research in support of the Agency's mission.

KEY WORDS: Awards, Technology, Scientific Achievements, Peer-Review

**ENVIRONMENTAL PROTECTION AGENCY
SCIENCE ADVISORY BOARD
1999 SCIENTIFIC AND TECHNOLOGICAL
ACHIEVEMENT AWARDS SUBCOMMITTEE ROSTER**

June 22-23, 2000 Meeting

CHAIR

Dr. C. H. (Herb) Ward, Foyt Family Chair of Engineering, Director, Energy & Environmental Systems Institute, Professor, Departments of Environmental Science & Engineering and Ecology & Evolutionary Biology, Rice University, Houston, TX

MEMBERS/CONSULTANTS ATTENDING THE MEETING

Dr. Roger Cochran, Staff Toxicologist, Medical Toxicology Branch, Department of Pesticide Regulation, California EPA, Sacramento, CA

Dr. Fred Pohland, Professor and Weidlein Chair of Environmental Engineering, University of Pittsburgh, Pittsburgh, PA

Dr. Deborah Cory-Slechta, Professor, Department of Neurobiology and Anatomy, and Chair, Department of Environmental Medicine, University of Rochester Medical School, Rochester, NY

Dr. Richard T. Di Giulio, Professor, Nicholas School of the Environment, Duke University, Durham, NC

Dr. Allan Legge, President, Biosphere Solutions, Calgary, Alberta, Canada

Dr. William Smith, Professor, School of Forestry and Environmental Studies, Yale University, New Haven, CT

Dr. Michael Trehy, Senior Research Specialist, Solutia Inc., St. Louis, MO

Dr. Judith S. Weis, Professor, Department of Biological Sciences, Rutgers University, Newark, NJ

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	2
2.1 Request for Science Advisory Board (SAB) Review	2
2.2 Subcommittee Review Procedures	3
3. EVALUATION OF THE 1999 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT	
AWARD NOMINATIONS	6
3.1 General Findings of the Subcommittee	6
3.2 STAA Program Administrative Recommendations	7
3.3 Award Recommendations	8
3.3.1 Level I Awards	9
3.3.2 Level II Awards	9
3.3.3 Level III Awards	9
3.3.4 Honorable Mention	10
Appendix A - Re-Categorized Nominations and Combined-Award Recommendations	A-1
Appendix B - Nominations Recommended for Awards	B-1
TABLES	
Table I - Example of how Initial Individual Reviewer Rankings are Compiled	4
Table II - Summary of 1999 Award Recommendations	9

1. EXECUTIVE SUMMARY

The Scientific and Technological Achievement Awards (STAA) Subcommittee of the Science Advisory Board (SAB) reviewed and evaluated the 102 nominations for the 1999 program that were submitted by EPA research laboratory directors and program office directors. The Subcommittee met in Washington, DC, on June 22-23, 2000, to determine award recommendations.

The STAA review program is a long-standing partnership between the Agency and the Science Advisory Board. Each year since 1980 Agency scientists and engineers have submitted nominated scientific and technological papers through an internal Agency review process managed by the Office of Research and Development (ORD). (Note: The Agency did not conduct the STAA Program during 1995 when there was a government-wide shutdown.) This review process ensures that the best scientific papers are submitted to the SAB for evaluation in the awards process. The SAB convenes an experienced group of scientists and engineers who meet in a closed meeting to review and evaluate the nominations. The SAB review panel produces a set of award recommendations which ORD uses in preparing the actual awards.

This year, the Subcommittee recommended 41 nominations for awards and recommended that 20 additional papers be recognized with Honorable Mention. The Subcommittee applied the evaluation criteria evenly across all nomination categories, without attempting to ensure equal numbers or percentages of awards in each category. The Subcommittee recommended awards for nominations from 12 research laboratories and centers within the Office of Research and Development, and one nomination submitted by Region VI.

The Subcommittee recommends that continued attention be paid to providing opportunities for EPA's scientists, engineers, and other technical personnel to conduct challenging, soundly based studies that result in peer-reviewed papers having high impact on important scientific issues and issues of specific importance to EPA

2. INTRODUCTION

2.1 Request for Science Advisory Board (SAB) Review

At the request of the Office of Research and Development (ORD), the Science Advisory Board convened a subcommittee to review and evaluate scientific and technological papers published in peer-reviewed journals by EPA authors and nominated for the 1999 EPA Scientific and Technological Achievement Awards (STAA) program. The STAA Subcommittee was asked to evaluate nominated papers for awards based on the rules developed by ORD. In January 1999, the Office of Research and Development (ORD) provided the SAB with copies of 102 nominations. The Subcommittee used the 1998 STAA Nomination Procedures and Guidelines, which describes the award levels, eligibility criteria (including the minimum EPA contribution and employer status of the principal author), and the criteria the SAB should use to evaluate the nominations. Although there are eleven nomination categories, ORD only received nominations in nine categories this year. ORD grouped the papers into these nine categories of science and technology¹, and screened the papers for conformance with the nomination guidelines. No nominations were submitted in the other two categories this year.²

As described in the 1998 STAA Nomination Procedures and Guidelines, the SAB was asked to recommend papers for each of three Levels of Award.

- a) Level I awards - are for nominees who have accomplished an exceptionally high-quality research or technological effort with national significance. These awards recognize the initiation or general revision of scientific/technological principles or procedures, or highly significant improvement in the value of a device, activity, program, or service to the public. It must be at least of national significance or have high impact on a broad area of science/technology. The nomination must be of far reaching consequences and recognizable as a major scientific/technological achievement within its discipline or field of study. The cash award for this level is \$5,000 divided among the EPA eligible authors, based on their individual level of effort as defined in the nomination.
- b) Level II awards - are for nominees who have accomplished a notably excellent research or technological effort that has qualities and values similar to, but to a lesser degree, than those described under Level I. It must have timely

¹ These categories are: Control Systems & Technology (CS), Ecology & Ecosystem Risk Assessment (EC), Health Effects & Health Risk Assessment (HE), Monitoring & Measurement Methods (MM), Transport & Fate (TF), Review Articles (RA), Risk Management and Policy Formulation (RM), Integrated Risk Management (IR), and Environmental Trends for Drivers of Future Risk (ET).

² These categories are: Environmental Education (EE) and Social Science Research (SS).

consequences and contribute as an important scientific/technological achievement within its discipline or field of study. The cash award for this level is \$2,500 divided among the EPA eligible authors, based on their individual level of effort as defined in the nomination.

- c) Level III awards - are for nominees who have accomplished an unusually notable research or technological effort. The nomination can be for a substantial revision or modification of a scientific/technological principle or procedure, or an important improvement to the value of a device, activity, program, or service to the public. Research for this award must relate to a mission or organizational component of the EPA, or significantly affect a relevant area of science/technology. The cash award for this level is \$1,000 divided among the EPA eligible authors, based on their individual level of effort as defined in the nomination.

- d) Honorable Mention - The Subcommittee has also added a fourth non-cash level award for nominations which are noteworthy but which do not warrant a Level I, II or III award. Honorable Mention applies to nominations that: (1) may not quite reach the level described for a Level III award; (2) show a promising area of research that the Subcommittee wants to encourage; or (3) show an area of research that the Subcommittees feels is too preliminary to warrant an award recommendation (yet).

2.2 Subcommittee Review Procedures

The Review Panel was convened as an *ad hoc* subcommittee of the Science Advisory Board (SAB). Membership included a significant number of returning STAA panelists; consequently, the level of experience with the process matched the level of scientific and technical expertise. In addition, many panelists hold editorial positions on highly regarded scientific journals.

Copies of all nominations/papers and the award program guidelines and nomination evaluation criteria were provided to Subcommittee members in advance of the review meeting. Subcommittee members selected nominations/papers to review based on their expertise, being sure to select, when appropriate, papers from across all nomination categories. Typically, each member chose at least 30 nominations to review. Members were encouraged to include nominations from areas of general expertise as well as areas in which they were most familiar. As part of the evaluation, Subcommittee members were asked to rank their own expertise in the field of science and technology addressed by each nomination they selected for review. These rankings were considered by the Subcommittee during the evaluation of each nomination. Each nomination was reviewed by at least three qualified Subcommittee members and then presented to the full Subcommittee and discussed during the review and evaluation meeting that was held in Washington, DC on June 22-23, 2000. Nominations judged to

merit an award at some level were reviewed a second time by the Subcommittee, and in some cases, a third time, to ensure that a complete evaluation had been made and that the appropriate award level was recommended. Nominations that were initially not recommended for an award were also re-reviewed to determine if the nomination might merit either an Honorable Mention or numerical award.

In reviewing the nominations, the Subcommittee members qualitatively considered evaluation criteria factors such as: the overall impact of the nominated paper(s) on scientific knowledge or technology relevant to environmental issues; the level of effort; the creativity, originality, initiative, and problem solving exhibited by the researchers; the beneficial impacts of the accomplishments and the recognition of the results outside the Agency; the extent to which an Agency function, mission, program, activity, or service is improved; and the nature and extent of the peer review, including the stature of the journal.³

Prior to the review and evaluation meeting, Subcommittee members forwarded the results of their review to the Designated Federal Officer (DFO) for the Subcommittee. The initial ranking along with the self-professed expertise of each reviewer for that particular nomination was compiled by the DFO in a tabular format (see Table I for an example) and then

Table I - Example of how Initial Individual Reviewer Rankings are Compiled (Data for illustration purposes only)

Nomination Number	Title of Nomination	Reviewer			Final Ranking (at meeting)
		Name	Expertise *	Initial Individual Ranking	
HE9999	Health Assessment: Trinitrochicken wire	Dr. Smith	2	NR	NR
		Dr. Jones	3	III	
		Dr. Adams	4	NR	
EC9999	Ecological Impacts of Trinitrochicken wire	Dr. Smith	4	NR	III
		Dr. Jones	3	III	
		Dr. Adams	2	III	
		Dr. Williams	3	III	
RA9999	Trinitrochicken wire - A Review	Dr. Black	3	I	I
		Dr. Green	4	I	
		Dr. Jackson	2	II	
		Dr. White	1	NR	

³ These criteria are discussed more fully in section VII of the 1998 Nomination Procedures and Guidelines provided to the Subcommittee by the Agency.

* Expertise levels are rated as follows: 1 = not related to major discipline of reviewer; 2 = general knowledge of research area; 3 = general knowledge of active research; and 4 = specific area of active research. NR = Not Recommended for an award.

used at the review and evaluation meeting to help focus the discussion on each individual nomination. Initial individual rankings were subject to change based on discussions at the review and evaluation meeting. The final ranking agreed to at that meeting is a consensus ranking. The examples given in Table I are illustrative. All nominations receiving a recommendation for a Level I, II or III award or an Honorable Mention are listed in Appendix B.

The Subcommittee met on June 22-23, 2000, in Washington, DC in a closed session due to the discussions of issues concerning personal privacy and potential cash awards. Consistent with the requirements of the Federal Advisory Committee Act (Public Law 92-463) 5 U.S.C. App.2, and sections 552(b)(2) and (b)(6) of the Administrative Procedure Act, 5 U.S.C. 552(b)(2) and 552(b)(6), this closed meeting was announced in a Federal Register⁴ notice signed by the EPA Administrator. All Subcommittee members were present at the meeting. The Subcommittee developed preliminary ratings for papers in each category, including discussion of each nominated paper. The Subcommittee made note of papers that had been incorrectly categorized, so that the final report recommendations would accurately reflect the subject areas of the nominated papers (see Appendix A). After completing all preliminary evaluations, the Subcommittee revisited the recommendations category by category to resolve any final issues and ensure consistency in applying the award criteria across categories.

This Subcommittee report was reviewed and approved by the SAB's Executive Committee (EC) at its public meeting on July 12-13, 2000 in Research Triangle Park, NC. For that review, the Subcommittee report, less the actual award recommendations (Appendix B), was made available to the EC and the interested public.

⁴ 65 Federal Register 36134, June 7, 2000.

3. EVALUATION OF THE 1999 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARD NOMINATIONS

3.1 General Findings of the Subcommittee

Based on the continuing decline of recommendations for Level I awards (four in 1996; three in 1997; one in 1998, and none this year) and Level II awards (16 in 1996; 11 in 1997; seven in 1998, and five this year), the Subcommittee felt that the overall quality of the papers nominated this year was not comparable to previous years. Hence, the Agency should view this report as a possible early warning that efforts are needed to improve the quality of its in-house research. The STAA program is an important mechanism for recognizing and promoting high quality, peer-reviewed work published in top scientific and technological journals. The STAA Program can also serve as a benchmark for the quality of the research produced by the Agency since the same metrics and level and breadth of expertise of reviewers (Subcommittee members) are used each year. The authors whose papers were recommended for awards this year represent 12 research laboratories and centers within the Office of Research and Development, and Region VI.

The Subcommittee recommends that ORD continue to request the submission of nominations early, and that ORD advertise the program more aggressively, so that Regional and Program offices have adequate time to prepare their nominations. The limited number of nominations from outside of ORD was again a disappointment to the Subcommittee; however, the increase to five nominations was an improvement over last year. While we recognize that most of the in-house research is conducted by ORD scientists in ORD laboratories, the submission process needs to encourage submissions from outside of ORD as well.

The Subcommittee also encourages the Agency to continue to broaden the scope of nominated papers and to promote multi-disciplinary research that directly supports risk management and policy decisions. In evaluating nominations for awards, the Subcommittee looked for papers with well-developed hypotheses, good sampling or experimental design, and where the theoretical basis is verified by field validation or thorough testing of a model. We also looked for innovative applications of theories from other disciplines and collaborations of interdisciplinary teams of scientists and engineers. In addition, the Subcommittee encourages the submission of nominations which address exposure assessment.

In order to evaluate papers that present incremental results in a series of published works, the Subcommittee recommends that the nomination guidelines prepared by ORD explicitly require discussion of related research published previously by the lead author(s), including information on any STAA awards given. When possible, and within the limitations suggested in Section 3.2a), nominations should include all papers in a series, providing they are within the time limit. This would allow a series of incremental studies to be evaluated for an award as a package.

Once again this year, the Subcommittee has recommended awards in the Risk Management and Policy Formulation category. The Subcommittee hopes to see more peer reviewed papers nominated in this category next year, as this is an important area of research for the Agency. In addition, two papers were submitted in the Integrated Risk Assessment category, and while an award was not recommended, the Subcommittee was encouraged to see nominations in this category and hopes to see additional nominations in the future. The Subcommittee feels that the process of converting Agency policy analysis and the technical foundations of its rule making into scientific articles for peer review is essential to maintain the quality in its science. This is also an important way to improve the Agency's reputation for scientific achievement. Laboratory directors and program managers should encourage the authors of policy formulation papers and regulatory impact analyses to develop technical articles for peer reviewed literature.

The focus of nominated papers should be on investigation and the creation of new technology and scientific and technical knowledge and information, rather than the reporting and communication of existing information, such as describing environmental regulations or current methods for pollution control. While such papers are extremely valuable and important for the agency, and the articles may be well-written and effective, they do not really fit within the purview of achievements in science and technology. The STAA Program is designed to recognize accomplishments in science and technology, hence, nominations in these fields and others should be focused on the new significant scientific knowledge developed by the Agency in these fields. Review articles with new and useful analysis and synthesis of existing information also are important; and in fact, several were recognized this year.

Finally, the Subcommittee believes that the STAA program provides one view of the technical and scientific progress that the Agency is making in various areas of research. This year's activities represent strengths in a variety of technological assessments, analytical measurements, and in certain areas of human health effects research.

3.2 STAA Program Administrative Recommendations

The Subcommittee commends the staff of ORD for administering the STAA program. The staff has made significant improvements in the program and the nomination packages that have facilitated the Subcommittee's review procedures. The Subcommittee recommends that ORD management continue to solicit participation of other Agency scientists and engineers as part of the Agency's goals to improve its scientific underpinnings and peer review of regulatory science.

Last year, the Subcommittee made a number of recommendations to ORD staff and managers that work with the STAA program, and to the authors of the nominated papers. We are pleased to see that many of these recommendations have already been implemented. In addition, we note that at this year's review meeting on June 22-23, 2000, ORD provided us with a revised nomination package in advance of the 2000 Awards program for our review and comment. We note the great improvement in the package with regard to the guidance supplied and the format of the application form. We

appreciate the effort to accommodate our recommendations and, as a result, look forward to an even more improved program next year. We offer the following additional recommendations and/or comments:

- a) Review articles (Category RA) should continue to include a synthesis and an analysis, not just a summary of relevant literature. It is clear from the number of Review Articles that garnered awards this year (six out of the nine submitted) that the quality of these papers has improved.
- b) Regarding the application form itself - the section on “Justification” has eight numbered sections for information relevant to the author or the nomination. In previous recommendations, we have suggested certain areas of emphasis and limitation for these sections, limiting the discussion(s) to about a page. This suggestion was made to staff when we reviewed the draft FY2000 Nomination Package.
- c) The suggested citations provided for many of the nominations need to reflect the value of the work to the Agency. Many of this year’s submissions merely contained a statement that reflected the nature of the research without any indication of the value of the work.
- d) The Subcommittee again urges the Agency to publicize the names of the award winning scientists and engineers and their papers both within the Agency and outside the Agency in a variety of ways. For example, the Agency should announce these winners by placing the title and abstract of their papers, along with the source of the paper, on the Agency’s Website. The Agency should also develop press releases or letters from the Administrator that are targeted toward the journal that published the articles, professional society newsletters, and local newspapers in the vicinity of the scientist/engineer’s research facility. To date, the Subcommittee has not received any feedback from the Agency regarding how this is handled.

3.3 Award Recommendations

The EPA authors recommended for awards include scientists and engineers from 12 research laboratories and centers within the Office of Research and Development, and from Region VI. See the detailed breakout of authors in Appendix B for further clarification.

Awards were recommended in seven of the eleven nomination categories, and for seven of the nine categories for which nominations were submitted. A total of 41 nominations were recommended for awards. A summary of the distribution of award recommendations

TABLE II - Summary of 1999 Award Recommendations

Nomination Categories *	# Nom.	Award Levels				%	Hon. Men.
		I	II	III	Tot		
Control Systems & Technology	16	0	0	3	3	19%	3
Ecology, Ecosystem Risk Assessment & Protection	20	0	2	10	12	60%	3
Health Effects, Health Risk Assessment	20	0	1	8	9	45%	2
Monitoring & Measurement Methods	19	0	0	7	7	37%	5
Transport and Fate	13	0	1	1	2	15%	5
Review Articles	9	0	1	5	6	67%	0
Risk Management & Policy Formulation	2	0	0	2	2	100%	0
Integrated Risk Assessment	2	0	0	0	0	0	1
Environmental Trends	1	0	0	0	0	0	1
TOTALS:	102	0	5	36	41	40%	20

* Categories listed in the "1998 Nomination Procedures and Guidelines."

among categories is presented in Table II. There were 102 nominations with over 100 individual papers submitted. The Subcommittee recommended that several individual nominations be combined and that several be re-categorized. Of those submitted, 61 were recommended for an award (41) or honorable mention (20). Re-categorized or combined nominations are identified in Appendix A. The full list of award recommendations is contained in Appendix B. Eligible authors are noted in boldface in Appendix B. The percentage figure following their names reflects their individual level of effort on a given nomination as provided by EPA.

3.3.1 Level I Awards

No Level I awards were recommended this year.

3.3.2 Level II Awards

Five Level II awards were recommended. Please see pages B-1 through B-2 of Appendix B for details.

3.3.3 Level III Awards

Thirty-six Level III awards were recommended. Please see pages B-2 through B-11 of Appendix B for details.

3.3.4 Honorable Mention

Twenty nominations were judged as being worthy of an Honorable Mention. Please see pages B-11 through B-17 of Appendix B for details.

A list of acronyms used in Table B is on page B-17.

Appendix A - Re-Categorized Nominations and Combined-Award Recommendations

Original Category & Nomination Number	Recommended New Category	Remarks/Recommendations
CS0006	RA0006	Change in category only
CS0016	ET0016	We recommend that these two nominations be recognized together (under category ET) for an Honorable Mention (See Appendix B).
ET101	n.c.	
EC0022	n.c.	We recommend that these two nominations be recognized together (under category EC) for a Level III Award (See Appendix B).
EC0026	n.c.	
MM0069	n.c.	We recommend that these two nominations be recognized together (under category MM) for a Level III Award (See Appendix B).
MM0070	n.c.	
RA0090	RM0090	We recommend that these two nominations be recognized together (under category RM) for a Level III Award (See Appendix B).
RM0098	n.c.	

n.c. - no change

Appendix B - Nominations Recommended for Awards

This Appendix identifies the 41 nominations recommended for Level II, and III awards (there were no Level I recommendation) and the 19 nominations recommended for an Honorable Mention. This Appendix is divided into four parts. The first part (page B-1) provides information on the Level I award recommendations. The second part (pages B-1 to B-2) provides information on the Level II award recommendations. The third part (pages B-2 to B-11) provides information on the Level III award recommendations. The fourth part (pages B-11 to B-17) provides information on the Honorable Mention recommendations.

The first column (**Nom. #**) gives the nomination number as provided by EPA in the original submission. The second column (**Titles and Citations of Submitted Papers**) provides the full title and citation of all papers submitted as part of a given nomination. The third column (**Authors and Nominating Organization**) provides the name(s) of the EPA eligible authors (in boldface type) along with their level of effort (percentage) on the nomination. The primary nominating organization is also listed. The fourth column (**Recommended Award Level**) indicates which award is recommended (Level I, II, or III or Honorable Mention). The last column (**Suggested Citation from Nominating Organization**) reflects the language of the citation that was provided to the Subcommittee by the Agency. These are not Subcommittee citations.

**Appendix B -
FY1999 Scientific and Technological Achievement Awards (STAA)
Nominations Recommended for Awards**

Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
Nominations Recommended for a Level I Award (\$5,000) - None				
None				
Nominations Recommended for a Level II Award (\$2,500) - Total of Five				
EC0018	Potential Relative Future Effects of Sulfur and Nitrogen Deposition on Lake Chemistry in the Adirondack Mountains. <i>Water Resources Research</i> , 35(7):2199-2211 (1999)	Dr. M. Robbins Church (50%) <i>NHEERL, Corvallis, OR</i>	LEVEL II	For outstanding contribution to the comparative prediction of future effects of acidic deposition on lake chemistry.
EC0034	GIS-Based Evaluation of Salmon Habitat in the Pacific Northwest. <i>Photogrammetric Engineering and Remote Sensing</i> , 63(10):1219-1229 (1997)	Mr. Ross S. Lunetta (50%) <i>NERL, RTP, NC</i>	LEVEL II	None given
HE0043	AhR, ARNT, and CYP1A1 mRNA quantitation in Cultured Human Embryonic Palates Exposed to TCDD and Comparison with Mouse Palate <i>in vivo</i> and in Culture. <i>Toxicological Sciences</i> . 47(1):62-75 (1999) (Three additional papers were part of this nomination)	Dr. Barbara D. Abbott (20%) Ms. Angela R. Buckalew (20%) Ms. Carmen R. Wood (10%) Dr. Gary A. Held (10%) Dr. Linda S. Birnbaum (5%) Ms. Janet J. Diliberto (20%) Ms. Judith E. Schmid (5%) <i>NHEERL, RTP, NC</i>	LEVEL II	Interspecies comparison of developmental toxicity for human and mouse embryonic tissue: correlation of tissue does and gene expression.

* NOTE: The percentages given after each name represent the percent of the total level of effort as documented in the EPA nomination.

Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
TF0079	Molecular Probe Techniques for the Identification of Reductants in Sediments: Evidence for Reduction of 2-Chloroacetophenone by Hydride Transfer. <i>ES&T</i> . 33(3):440-445 (1999)	Dr. Eric J. Weber (30%) <i>NERL, Athens, GA</i>	LEVEL II	For development of a new technique for identifying naturally occurring reductants in anoxic environments.
RA0091	Controlling Emissions from Fuel and Waste Combustion. <i>Controlling Emissions from Fuel and Waste Combustion</i> 106(1):82-88 (1999)	Mr. Charles B. Sedman (100%) <i>NRMRL, RTP, NC</i>	LEVEL II	Promoting technical innovations to reduce toxic and acid gas emissions from combustion sources in a simplified scheme.
Nominations Recommended for a Level III Award (\$1,000) - Total of Thirty-Six				
CS0004	Scale model Studies of Mixing in Drinking Water Storage Tanks. <i>Jour. Environ. Engineering</i> . 125(8):755-761 (1999)	Dr. Lewis A. Rossman (80%) <i>NRMRL, Cincinnati, OH</i>	LEVEL III	For contributions to our understanding of how high quality drinking water can be maintained in distribution system storage facilities
CS0010	Evaluation of Tire-Derived Fuel for Use in Nitrogen Oxide Reduction by Reburning. <i>J. Air & Waste Mgmt Assoc.</i> 48:729-735 (19)	Dr. Charles A. Miller (45%) Dr. Paul M. Lemieux (35%) <i>NRMRL, RTP, NC</i>	LEVEL III	For success in demonstrating tire-derived fuel as a reburning fuel to lower both NO emissions and scrap tire stocks
CS0014	Nanofiltration Foulants from a Treated Surface Water. <i>ES&T</i> 32(22):3612-3617 (1998)	Dr. Thomas F. Speth (75%) <i>NRMRL, Cincinnati, OH</i>	LEVEL III	For excellence in environmental engineering research
EC0017	Methodology for the Evaluation of Cumulative Episodic Exposure to Chemical Stressors in Aquatic Risk Assessment. <i>Environ. Toxicol. and Chem.</i> 19(4k):In Press (2000)	Dr. Michael G. Morton (60%) Dr. Foster L. Mayer (20%) <i>EPA REGION 6, Dallas, TX</i>	LEVEL III	Advancement in Probabilistic Ecological Risk Assessment Methodology

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
EC0020	Vitellogenin induction and reduced serum testosterone concentrations in feral male carp (<i>Cyprinus carpio</i>) captured near a major metropolitan sewage treatment plant. <i>Environmental Health Perspectives</i> 104(10):1096-1101 (1996)	Dr. Leroy C. Folmar (50%) <i>NHEERL, Gulf Breeze, FL</i>	LEVEL III	For outstanding research in documenting endocrine disrupting effects in wild populations
EC0022	Refinement, Validation, and Application of a Benthic Condition Index for Northern Gulf of Mexico Estuaries. <i>Estuaries</i> 22(3A):624-634 (1999)	Virginia D. Engle (60%) J. Kevin Summers (40%) <i>NHEERL, Gulf Breeze, FL</i>	LEVEL III	Development of an indicator of biological condition for estuaries using benthic macroinvertebrate community parameters

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
EC0023	<p>a) Reproductive Toxicity and Disposition of 2,3,7,8 Tetrachlorodibenzo-p-dioxin in Adult Brook Trout (<i>Salvelinus fontinalis</i>) Following a Dietary Exposure. <i>Environ. Toxicol. Chem.</i> 17(12):2395-2407 (1998)</p> <p>b) Toxicity of 2,3,7,8-Tetrachlorodibenzo-p-dioxin to Early Life stage Brook Trout Following Parental Dietary Exposure. <i>Environ. Toxicol. Chem.</i> 17(12):2408-2421 (1998)</p> <p>c) Physiologically Based Toxicokinetic Model for Maternal Transfer of 2,3,7,8 Tetrachlorodibenzo-p-dioxin in Brook Trout. <i>Environ. Toxicol. Chem.</i> 17(12):2422-2434 (1998)</p> <p>d) Comparative Toxicity of 2,3,7, 8-Tetrachlorodibenzo-p-dioxin to Seven Freshwater Fish Species During Early Life-Stage Development. <i>Environ. Toxicol. Chem.</i> 17(3):472-483 (1998)</p>	<p>Dr. Rodney D. Johnson (17%) Mr. Joseph E. Tietge (17%) Dr. John W. Nichols (10%) Dr. Philip M. Cook (10%) Mr. Robert L. Spehar (7%) Ms. Kathleen M. Jensen (6%) Mr. Gary W. Holcombe (5%) Dr. Joseph D. Fernandez (5%) Dr. Russell J. Erickson (5%) Mr. Douglas B. Lothenbach (5%) Ms. Ann Linnum (3%) Mr. David L. Lattier (2%) Ms. Suzanne A. Christ (2%) Ms. Denise A. Gordon (1%)</p> <p><i>NHEERL, Duluth, MN</i></p>	LEVEL III	A comprehensive reduction of uncertainties for the prediction of the toxicity of TCDD to fish in ecological risk assessments
EC0026	<p>Estimating the ecological condition of the estuaries of the Gulf of Mexico. <i>Environmental Monitoring and Assessment.</i> 57:59-83 (1999)</p>	<p>John M. Macauley (40%) J. Kevin Summers (30%) Virginia Engle (30%)</p> <p><i>NHEERL, Gulf Breeze, FL</i></p>	LEVEL III	For creating the Nation's first comprehensive assessment of the ecological condition of the Gulf of Mexico estuaries

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
EC0028	Nondestructive Indicator of Ethoxyresorufin-o-deethylase Activity In Embryonic Fish. <i>Environ. Toxicol. Chem.</i> 17(12):2481-2486 (1998)	Ms. Diane Nacci (20%) Ms. Laura Coiro (20%) Ms. Anne Kuhn (20%) Ms. Denise Champlin (20%) Dr. Wayne Munns (10%) <i>NHEERL, Narragansett, RI</i>	LEVEL III	A simple, fluorescence method as a successful <i>in vivo</i> indicator of Ah-receptor mediated effects in an embryonic fish
EC0029	An Integrated Evaluation of the Persistence and Effects of 4-Nonylphenol in an Experimental Littoral Ecosystem <i>Environ. Toxicol. Chem.</i> 18(3):357-362 (1999)	Mr. Michael L. Knuth (33 1/3%) Mr. Frank S. Stay (33 1/3%) <i>NHEERL, Duluth, MN</i>	LEVEL III	The study of the environmental distribution and ecological effects of 4-nonylphenol in freshwater habitats
EC0031	Soil-atmosphere exchange of methane in adjacent cultivated and floodplain forest soils. <i>J. Geophysical Res.</i> 104(D7):8161-8171 (1999)	Dr. Roger A. Burke (60%) <i>NERL, Athens, GA</i>	LEVEL III	For research on the impacts of landscape position and disturbance on soil-atmosphere exchange of methane in forest soils
EC0032	Peroxidases in Grass Dew Derived from Guttation: Possible Role n Polymerization of Soil Organic Matter. <i>Biogeochemistry</i> 42(3):311-323 (1998)	Dr. Richard Zepp (40%) <i>NERL, Athens, GA</i>	LEVEL III	For innovative research into the role of atmospheric hydrogen peroxide in the polymerization of organic matter

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
EC0035	<p>a) Effects of a Mixture of Non-ortho -and Mono-ortho -polychlorinated Biphenyls on Reproduction in <i>Fundulus heteroclitus</i> (Linnaeus) <i>Environ. Toxicol. Chem.</i> 17(7):1396-1404 (1998)</p> <p>b) Reproduction and Polychlorinated Biphenyls in <i>Fundulus heteroclitus</i> (Linnaeus) from New Bedford Harbor, MA, USA. <i>Environ. Toxicol. Chem.</i> 17(7):1405-1414 (1998)</p>	<p>Dr. Dianne E. Black (50%) Dr. Richard J. Pruell (20%)</p> <p><i>NHEERL, Narragansett, RI</i></p>	LEVEL III	PCB Effects on Fish Survival and Reproduction: A Laboratory and Field Investigation of <i>Fundulus heteroclitus</i>
HE0039	<p>Lung Tumorigenic Interactions in Strain A/J Mice of Five Environmental Polycyclic Aromatic Hydrocarbons. <i>Environ. Health Perspectives.</i> 106:1337-1346 (1998)</p>	<p>Dr. Stephen C. Nesnow (80%) Dr. Marc J. Mass (10%) Dr. Jeffrey A. Ross (10%) Mr. Guy R. Lambert (10%)</p> <p><i>NHEERL, RTP, NC</i></p>	LEVEL III	For reducing the uncertainties in default assumptions and improving PAH risk assessment
HE0041	<p>a) Increased specific airway reactivity of persons with mild atopic allergic asthma following 7.6 hr exposures to 0.16 ppm ozone. <i>J. Allergy and Clinical Immunology</i> (1999) <i>In Press</i></p> <p>b) Prolonged acute exposure to 0.16 ppm ozone induces eosinophilic airway inflammation in asthmatic subjects with allergies. <i>J. Allergy and Clinical Immunology</i> 100(6):802-808 (1997)</p>	<p>Dr. Howard Hehrl (20%) Dr. Don Horstman (20%) Dr. Lawrence Folinsbee (15%) Dr. Robert Devlin (15%)</p> <p><i>NHEERL, RTP, NC</i></p>	LEVEL III	Asthmatics are more sensitive to ozone than healthy individuals

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
HE0046	Assessment of Human Exposure to Ambient Particulate Matter. <i>J. Air and Waste Management Association</i> 49(11):174-185 (1999)	Dr. David T. Mage(50%) Dr. William E. Wilson (25%) Dr. Lester D. Grant (10%) NCEA, RTP,NC	LEVEL III	For demonstrating that exposure to PM of <i>ambient origin</i> is critical for understanding the health effects of ambient PM
HE0049	Pulmonary Responses to Oil Fry Ash Particles in the Rat Differ by Virtue of Their Specific Soluble Metals. <i>Toxicol. Sci.</i> 43(2):204-212 (1998)	Dr. Urmila P. Kodavanti (50%) Mr. John K. McGee(10%) Mr. Allen D.Ledbetter(5%) Ms. Judy E. Richards (5%) Dr. Daniel L. Costa(10%) NHEERL, RTP, NC	LEVEL III	Specificity of PM-Associated Metals in Determining the Nature of Pulmonary Health Effects

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
HE0051	<p>a) Long-term Ambient Ozone Concentration and the incidence of Asthma in Nonsmoking Adults: the Ahsmog Study. <i>Environ. Res.</i> 80:110-121 (1999)</p> <p>b) Long-term inhalable particles and Other Air Pollutants Related to Mortality in Nonsmokers. <i>Am. J. Respir. and Critical Care Medicine</i> 159:373-282 (1999)</p> <p>c) Long-term particulate and Other Air Pollutants and Lung Function in Nonsmokers. <i>Am. J. Respir. and Critical Care Medicine</i> 158:289-298 (1998)</p> <p>d) Development of Chronic Productive Cough as Associated with long-term ambient inhalable Particulate Pollutants in nonsmoking adults: the Ahsmog Study. <i>Appl. Occupational and Environ. Hygiene</i> 13:444-452 (1998)</p>	<p>Dr. William F. McDonnell(35%)</p> <p><i>NHEERL, RTP, NC</i></p>	LEVEL III	Epidemiologic Studies of the Health Effects of Long-term Exposure to Ambient Air Pollutants
HE0052	Distribution of Pesticides and Polycyclic Aromatic Hydrocarbons in House Dust as a Function of Particle Size. <i>Environ. Health Perspect.</i> 107(9):721-726 (1999)	<p>Dr. Robert G. Lewis (80%)</p> <p><i>NERL, RTP, NC</i></p>	LEVEL III	For significant contributions to the characterization of residential household dust and advancement of the understanding of the associated human exposure risks, especially for small children

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
HE0054	<p>a) Repeated Exposure of Adult Rats to Aroclor 1254 Causes Brain Region-Specific Changes in Intracellular Ca²⁺ Buffering and Protein Kinase C Activity in the Absence of Changes in Tyrosine Hydroxylase. <i>Toxicol. Appl. Pharmacol.</i> 153(2):186-198 (1998)</p> <p>b) Congener-Specific Distribution of Polychlorinated Biphenyls in Brain Regions, Blood, Liver, and Fat of Adult Rats Following Repeated Exposure to Aroclor 1254. <i>Toxicol. Appl. Pharmacol.</i> 153(2):199-210 (1998)</p>	<p>Dr. Prasada Rao Kodavanti (30%) Ms. Ethel C. Derr-Yellin (15%) Dr. William R. Mundy (5%) Dr. Timothy J. Shafer (5%) Dr. Dave W. Herr (5%) Dr. Stanley Barone, Jr. (5%) Dr. Robert C. MacPhail (5%) Mr. Thomas R. Ward (5%) Dr. Hugh A. Tilson (5%)</p> <p>NHEERL, RTP, NC</p>	LEVEL III	For highlighting the biological activity of individual PCBs and PCB mixtures in the nervous system
HE0056	Effects from environmental manganese exposure: A review of the evidence from non-occupational exposure studies. <i>Neurotox.</i> 20(2/3):379-400 (1999)	<p>Dr. H. Kenneth Hudnell (50%)</p> <p>NHEERL, RTP, NC</p>	LEVEL III	Adverse human-health effects from environmental exposure to airborne manganese
MM0059	Near-real-time measurement of trace volatile organic compounds from combustion processes using an on-line gas chromatograph. <i>Waste Management</i> 18:403-410 (1998)	<p>Mr. Jeffrey V. Ryan (60%) Dr. Paul M. Lemieux (35%)</p> <p>NRMRL, RTP, NC</p>	LEVEL III	Advancing the technology for monitoring trace level VOCs from combustion sources

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
MM0068	Biogenic Fraction of Ambient VOC: Comparison of Radiocarbon, Chromatographic, and Emissions Inventory Estimates for Atlanta, Georgia. <i>J. Air and Waste Management Association</i> 49(3):299-307 (1999)	Dr. Charles W. Lewis (30%) Mr. Robert K. Stevens (30%) <i>NERL, RTP, NC</i>	LEVEL III	For advancing the use of radiocarbon in quantifying the contribution of biogenic emissions to ambient VOC
MM0069	Trends in Atmospheric Sulfur and Nitrogen Species in the Eastern United States for 1989-1995. <i>Atmospheric Environ.</i> 33(1):37-49 (1998)	Dr. David M. Holland (40%) Mr. Peter P. Principe (40%) Dr. Joseph E. Sickles (20%) <i>NERL, RTP, NC</i>	LEVEL III	Estimation of emission-related trends in air quality data
MM0070	Spatial Prediction of Sulfur Dioxide in the Eastern United States. <i>In: Spatial Prediction of Sulfur Dioxide in the Eastern United States, geoENVII - Geostatistics for Environmental Applications. Amsterdam, Kluwer Academic Publishers (1999) pg 65-76.</i>	Dr. David M. Holland (30%) Dr. Lawrence H. Cox (30%) <i>NERL, RTP, NC</i>	LEVEL III	Prediction of Spatial Patterns of Air Pollution
MM0072	Isotope Dilution Analysis of Bromate in Drinking Water Matrices by Ion Chromatography with Inductively Coupled Plasma Mass Spectrometric Detection. <i>Anal. Chem.</i> 71(3):722-726 (1999)	Dr. John T. Creed (50%) Ms. Carol A. Schwegel (50%) <i>NERL, Cincinnati, OH</i>	LEVEL III	None listed

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
MM0073	Identification of putative sequence specific PCR primers for detection of the toxigenic fungal species <i>Stachybotys chartarum</i> . <i>Molecular and Cellular Probes</i> 12:387-396 (1998)	Dr. Richard A. Haugland (90%) <i>NERL, Cincinnati, OH</i>	LEVEL III	In recognition of research leading to the development of improved technology for the detection of hazardous microorganisms in the environment
MM0075	a)Analyses of Fish Tissue by Vacuum Distillation/Gas Chromatography/ Mass Spectrometry. <i>Anal. Chem.</i> 69(6):1127-1134 (1997) b)Bioconcentration Factors for Volatile Organic Compounds in Vegetation. <i>Anal. Chem.</i> 70(5):851-856 (1998) c)Leaves as an Indicator of Exposure to Airborne Volatile Organic Compounds. <i>ES&T In Press.</i> (1999)	Dr. Michael H. Hiatt (100%) <i>NERL, Las Vegas, NV</i>	LEVEL III	Successfully applied vacuum distillation to analyzing biota. Demonstrated its utility for determining exposure to volatile pollutants
TF0076	An Assessment of Mercury-Species-Dependent Binding with Natural Organic Carbon. <i>Speciation and Bioavailability</i> 10(4):127-136 (1999)	Dr. Nicholas T. Loux (100%) <i>NERL, Athens, GA</i>	LEVEL III	For contributing to the elucidation of the modes of interaction of Mercury with natural organic matter

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
RA0090	Perchlorate Chemistry: Implications for Analysis and Remediation. <i>Bioremediation Journal</i> 2(2):81-95 (1998)	Mr. Edward T. Urbansky (100%) <i>NRMRL, Cincinnati, OH</i>	LEVEL III	In recognition of reviewing the fundamental chemistry of perchlorate, in furtherance of potable water quality and safety
RA0093	a) Combining Environmental Information I: Environmental Monitoring, Measurement and Assessment. <i>Envirometrics</i> 7(3):299-308 (1996) b) Combining Environmental Information II: Environmental Epidemiology and Toxicology. <i>Envirometrics</i> 7(3):309-324 (1996)	Dr. Lawrence H. Cox (50%) <i>NERL, RTP, NC</i>	LEVEL III	For advancing development and use of rigorous quantitative methods for efficient combination of environmental data and analyses
RA0094	Biosensors for Field Analytical Monitoring. <i>Field Anal. Chem. & Technol.</i> 2(6):317-331 (1998)	Dr. Kim R. Rogers (90%) <i>NERL, Las Vegas, NV</i>	LEVEL III	For contributions in the application of biosensors to environmental monitoring
RA0095	Rodent Models of Cardiopulmonary Disease: Their Potential Applicability in Studies of Air Pollutant Susceptibility. <i>Environ. Health Perspect.</i> 106(Suppl 1):111-130 (1998)	Dr. Urmila P. Kodavanti (60%) Dr. Daniel L. Costa (30%) <i>NHEERL, RTP, NC</i>	LEVEL III	For the preparation of a comprehensive and critical assessment of rodent models of carcinogenicity.
RA0096	Water Analysis. <i>Anal. Chem.</i> 71(12):181-215 (1999)	Dr. Susan D. Richardson (100%) <i>NERL, Athens, GA</i>	LEVEL III	State-of-science review of significant and new analytical methods and studies related to Water Analysis

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
RM0097	a) Salmon Policy: Science, Society, Restoration, and Reality. <i>Renewable Resources Journal</i> 17(2):6-16 (1999) b) Fisheries Management: Integrating Societal Preferences, Decision Analysis, and Ecological Risk Assessment. <i>Environ. Science & Policy</i> 1(4):329-335 (1998)	Dr. Robert T. Lackey (100%) <i>NHEERL, Corvallis, OR</i>	LEVEL III	For scientific and technical achievement in advancing understanding of salmon policy and ecological risk assessment
RM0098	Issues in Managing the Risks Associated with Perchlorate in Drinking Water. <i>Jour. Environ. Manage.</i> 56:79-95 (1999)	Mr. Edward T. Urbansky (65%) Mr. Michael Schock (35%) <i>NRMRL, Cincinnati, OH</i>	LEVEL III	For assessing technologies for treating perchlorate-tainted waters with respect to a comprehensive risk management
Nominations Recommended for Honorable Mention (No Cash Award)- Total of Twenty				
CS0002	Low Concentration Mercury Sorption Mechanisms and Control by Calcium-Based Sorbents: Application in Coal-Fired Processes. <i>JAWMA</i> 48(1):1191-1198 (1998)	Charles B. Sedman (75%) <i>NRMRL, RTP, NC</i>	Honorable Mention	Developing modified lime-based sorbents and supporting the Agency in developing new mercury emissions control strategies
CS0003	Mechanical Properties of Blends of PAMAM Dendrimers with Poly(vinyl chloride) and Poly(vinyl acetate). <i>Jour. Polymer Science: Part A: Polymer Chemistry</i> 36:2111-2117 (1998)	Mr. Carlos M. Nunez (70%) <i>NRMRL, RTP, NC</i>	Honorable Mention	Conducted innovative and cutting edge research on the use of dendrimers, a unique and emerging class of polymer structure, as rheology modifiers in coating formulations
CS0016	Photocatalytic Selective oxidation of hydrocarbons in the aqueous phase. <i>Journal of Catalysts</i> 183:159-162 (1998)	Michael Gonzalez (80%) Subhas K. Sikdar (10%) S. Garry Howell (10%) <i>NRMRL, Cincinnati, OH</i>	Honorable Mention	For demonstrating alternative environmentally friendly chemical processes for the synthesis of oxygenated chemicals

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
EC0019	<p>a) Field Evaluation of the EPA (Kenaga) nomogram, a method for estimating wildlife exposure to pesticide residues on plants. <i>Environ. Toxicol. Chem.</i> 15(4):534-543 (1996)</p> <p>b) Literature review and evaluation of the EPA food-chain (Kenaga) nomogram, an instrument for estimating pesticide residues on plants. <i>Environ. Toxicol. Chem.</i> 13(9):1383-1391 (1994)</p>	<p>Dr. Thomas Pflieger (35%) Dr. John Fletcher (30%)</p> <p><i>NHEERL, Corvallis, OR</i></p>	Honorable Mention	Validation of the Kenaga Nomogram: A tool used in ecological risk assessment
EC0025	An analysis of the influence of annual thermal variables on the occurrence of fifteen warmwater fishes. <i>Trans. of Am. Fish. Soc.</i> 128(2):257-264 (1999)	<p>Ms. Virginia M. Snarski (35%) Mr. John G. Eaton (25%)</p> <p><i>NHEERL, Duluth, MN</i></p>	Honorable Mention	Empirical models for predicting presence or absence of warmwater fishes from derived thermal regime variables
EC0027	Emergency Analysis of Human Carrying Capacity and Regional Sustainability: An Example Using the State of Maine. <i>Environ. Monitor. & Assess.</i> 51:531-569 (1998)	<p>Dr. Daniel E. Campbell (100%)</p> <p><i>NHEERL, Narragansett, RI</i></p>	Honorable Mention	For analysis of the sustainable human carrying capacity of regions as illustrated by the State of Maine
HE0045	In vitro methylation of inorganic arsenic in mouse intestinal cecum. <i>Toxicol. Appl. Pharmacol.</i> 147:101-109 (1997)	<p>Dr. Larry L. Hall (25%) Dr. S. Elizabeth George (25%) Mr. Michael J. Kohan (25%) Dr. David J. Thomas (10%)</p> <p><i>NHEERL, RTP, NC</i></p>	Honorable Mention	For research on the metabolism of arsenicals by the anaerobic microflora of the cecum of the mouse

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
HE0048	<p>a)Administration of potentially antiandrogenic pesticides (procymidone, linuron, iprodione, chlozolinate, p,p'-DDE, and ketoconazole) and toxic substances (dibutyl- and diethylhexyl phthalate, PCB 169, and ethane dimethane sulphonate) during sexual differentiation produces diverse profiles of reproductive malformations in the male rat. <i>Toxicol. & Indust. Health 15(1-2):94-118 (1999)</i></p> <p>b)The fungicide procymidone alters sexual differentiation in the male rat by acting as an androgen-receptor antagonist in vivo and in vitro. <i>Toxicol. & Indust. Health 15(1-2):80-93 (1999)</i></p> <p>c)Environmental antiandrogens: Low doses of the fungicide vinclozolin alter sexual differentiation of the male rat. <i>Toxicol. & Indust. Health 15(1-2):48-64 (1999)</i></p> <p>d)Peripubertal exposure to the antiandrogenic fungicide, vinclozolin, delays, puberty, inhibits the development of androgen-dependent tissues, and alters androgen receptor function in the male rat. <i>Toxicol. & Indust. Health 15(1-2):65-79 (1999)</i></p>	<p>Dr. L. Earl Gray, Jr. (50%) Ms. Cynthia Wolf (5%) Ms. Christy Lambright (5%) Mr. Matthew Price (5%) Dr. Ralph L. Cooper (5%) Mr. Joseph Ostby (20%)</p> <p><i>NHEERL, RTP, NC</i></p>	Honorable Mention	Antiandrogen pesticides and toxic substances induce malformations and delay pubertal development

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
MM0061	Abbreviated Microwave Extraction of Pesticides and PCBs in Soil. <i>Spectroscopy</i> 13(10):41-50 (1997)	Mr. Rick McMillin (33%) Mr. L. C. Miner (33%) Mrs. Lisa Wool (33%) <i>Region 6, Houston, TX</i>	Honorable Mention	For the Recognition of the Contributions to the Field of Microwave Extraction and Pollution Prevention
MM0064	Remediation at a Marine Superfund Site: Surficial Sediment PCB Congener Concentration, Composition, and Redistribution. <i>ES&T</i> 32:3496-3501 (1998)	Dr. Barbara J. Bergen (60%) Dr. William G. Nelson (20%) <i>NHEERL, Narragansett, RI</i>	Honorable Mention	A novel approach to examine the spatial and temporal variability in sediment PCB concentrations at a marine Superfund site
MM0065	Benthic Biology Processes and E as a Basis for a Benthic Index. <i>Environ. Monitoring and Assessment</i> 51:259-268 (1998)	Dr. Wayne R. Davis (75%) Dr. John P. Paul (10%) <i>NHEERL, Narragansett, RI</i>	Honorable Mention	A novel approach to estimating benthic community condition using sediment porewater E_H profiles
MM0066	Identification of Drinking Water Contaminants in the Course of a Childhood Cancer Investigation in Toms River, New Jersey. <i>J. Exposure Analysis and Environ. Epid.</i> 9(3):199-216 (1999)	Dr. Susan D. Richardson (35%) Dr. Timothy W. Collette (35%) Mr. Alfred D. Thruston, Jr. (5%) Dr. Jackson Ellington (5%) <i>NERL, Athens, GA</i>	Honorable Mention	Identification of drinking water contaminants linked to elevated levels of childhood cancer in Toms River, New Jersey
MM0067	A Field Study to Compare Performance of Stainless Steel Research Monitoring Wells with Existing on-Farm Drinking Water Wells in Measuring Pesticide and Nitrate Concentrations. <i>Chemosphere</i> 38(4):875-889 (1999)	Mr. Charles N. Smith (35%) Mr. William R. Payne, Jr. (25%) Mr. John D. Pope (25%) <i>NERL, Athens, GA</i>	Honorable Mention	For research comparing the use of research and drinking water wells and to document the extent of nitrate and pesticide contamination

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Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
TF0078	Sorption Kinetics of PAHs in Methanol - Water Systems. <i>J. Contaminant Hydrology 34(1&2):107-120 (1998)</i>	Dr. Dermont C. Bouchard (100%) <i>NERL, Athens, GA</i>	Honorable Mention	For advancing knowledge and modeling capabilities of kinetically constrained desorption of hydrophobic compounds
TF0083	Environmental Isotopes for Resolution of Hydrology Problems. <i>Environ. Modeling and Assessment 52:389-410 (1998)</i>	Dr. William C. Sidle (90%) <i>NRMRL, Cincinnati, OH</i>	Honorable Mention	Development of a new isotope chemistry technique for tracing leaks in SO and CSO distribution systems
TF0085	The Conformational Dynamics of Humic Polyanions in Model Organic and Organo-mineral Aggregates. <i>J. Molecular Structure 460:179-190 (1999)</i>	Dr. George W. Bailey (35%) <i>NERL, Athens, GA</i>	Honorable Mention	For application of computational chemistry to a better understanding of the conformational dynamics of humic materials
TF0086	Factors Influencing Photoeactions of Dissolved Organic Matter in a Coastal River of the Southeastern United States. <i>ES&T 32(19):2940-2946 (1998)</i>	Dr. Richard G. Zepp (50%) <i>NERL, Athens, GA</i>	Honorable Mention	For innovative research on factors influencing photoreactions of dissolved organic matter in coastal ecosystems
TF0087	Evaluation of Mass Flux to and from Ground Water Using a Vertical Flux Model (VFLUX): Application to the Soil Vacuum Extraction Closure Problem. <i>Ground Water Monitoring and Remediation 96-104 (1999)</i>	Mr. Dominic C. DiGiulio (50%) <i>NRMRL, Ada, OK</i>	Honorable Mention	Development of a Strategy for Assessment of Soil Venting Performance and Closure and Supporting Mass Flux Assessment

* NOTE: The percentages given after each name represent the percent of the total level of effort as documented in the EPA nomination.

Nom. #	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Recommended Award Level	Suggested Citation from Nominating Organization
IR0100	<p>a) Genotoxicity of Bioremediated Soils from the Reilly Tar Site, St. Louis Park, Minnesota. <i>Environ. Health Perspect.</i> 106(S6):1427-1431 (1998)</p> <p>b) Bioassay-Directed Fractionation and Chemical Identification of Mutagens in Bioremediated Soils. <i>Environ. Health Perspect.</i> 106(S6):1435-1440 (1998)</p>	<p>Dr. Larry D. Claxton (20%) Mr. Thomas J. Hughes (20%) Mr. Lance Brooks (20%) Ms. Sarah Warren (10%) Dr. Fran Kremer (10%) Dr. Richard Brenner (10%) Mr. Barry Austern (10%)</p> <p><i>NHEERL, RTP, NC</i></p>	Honorable Mention	Research that aids the integrated risk assessment of bioremediation processes and soils
ET0101	Synthesizing Alcohols and Ketones by Photoinduced Catalytic Partial-Oxidation of Hydrocarbons on TiO ₂ Film Reactors Prepared by Three Different Methods. <i>Indust. and Engineering Chemistry Res.</i> 38(9):3276-3284 (1999)	<p>Dr. E. Sahle-Demessie (45%) Dr. Michael A. Gonzalez (20%)</p> <p><i>NRMRL, Cincinnati, OH</i></p>	Honorable Mention	For developing new catalytic materials capable of eliminating or minimizing pollution for safeguarding the environment

Key to Acronyms used in the above Table:

NCEA National Center for Environmental Assessment
NERL National Exposure Research Laboratory
NHEERL National Health and Environmental Effects Laboratory
NRMRL National Risk Management Research Laboratory
OPPT Office of Pollution Prevention and Toxics
RTP Research Triangle Park

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* NOTE: The percentages given after each name represent the percent of the total level of effort as documented in the EPA nomination.