

# ASLO BULLETIN

American Society of Limnology and Oceanography

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## MESSAGE FROM THE PRESIDENT

*John T. Lehman, Division of Biological Science, Natural Science Building, University of Michigan, Ann Arbor, MI 48109 (Tel. 313-763-4680; Fax 313-747-0884; Omnet J.Lehman)*

I wish to add my voice to those many of you who have expressed enthusiasm for the meeting just held in Santa Fe. The Organizing Committee has earned our gratitude, because the intended goal of the meeting was to provide a forum conducive to intellectual exchange between limnologists and oceanographers, and the meeting was faithful to that objective. Besides, it was great fun to see so many familiar colleagues assembled together with growing numbers of new members, the latter group being particularly conspicuous to me at the dance. Student members and new members are very important to ASLO, because they provide vitality and perspective which refresh us all. I was pleased to learn at the Board meeting that the drive to promote and increase society membership during the term of Trevor Platt has been successful, particularly at the student level, and I pledge to maintain that commitment during my term, as well.

One of the most notable features of ASLO operations during the past two years has been the enlarged participation of members in affairs of the society through standing and ad hoc committees. ASLO members as a group possess broad understanding and experience in practical, theoretical, and educational aspects of aquatic science, and it has become clear that many of you are pleased to donate time, thought, and advice on important matters. These activities and sentiments deserve to be nurtured and promoted. ASLO thrives on the volunteerism and hard working spirit of its members; one challenge that I see is to ensure that all segments and age groups of the society have a chance to contribute.

What I regard as top priorities of this professional society, however, are the academic quality of its scholarly journal, and the intellectual vigor of its meetings. Our journal is the voice and repository for the ideas and facts we have accumulated about nature, and is an enduring legacy which has worldwide distribution. We have entered a period of great change in the editorial arrangements for the journal, but I accept as a major tenet

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of action that we need to select an outstanding candidate for editor. L&O will remain the centerpiece of excellence for ASLO.

One important principle that we established at the ASLO Business Meeting in Santa Fe was that all Society members, except student members, should sponsor the full cost of production of the journal, which now is \$40 per volume. We intend to find mechanisms whereby ASLO members who choose not to take the journal themselves, owing to needless duplication of subscriptions with libraries or colleagues, can sponsor an institutional or individual recipient overseas. Our student members can know that they are valued participants in ASLO, so much so that their costs are subsidized through the dues of their mentors and elder colleagues.

Our meetings are the point of exchange for thoughts and debate which can both sharpen the wit and tone the blood (a theme often invoked by our late colleague Peter Kilham). Some changes in member expectations have become evident by the success of our recent national meetings. ASLO is a vibrant group with a good mix of tastes for intellectual and social amenities at its meetings. We don't need to confine our meeting sites to college campuses, but we do need to institutionalize some of the programmatic features that seem to work. There is sentiment that joint meetings with allied societies can be beneficial, but we do not need to worry about our solo ability to develop outstanding scientific programs in the aquatic sciences.

The other thing that we are now prepared to do well is to sponsor special meetings and symposia on timely, controversial, and challenging subjects. We now have staff support to develop grant requests and to administer logistics of ASLO workshops or symposia like last year's debate about iron limitation in some regions of the ocean. These lively discussions are excellent ways to focus the best energies of our members in forums smaller than those of our national meetings, and to guarantee that the substance becomes shared through special issues of the journal. The Board is anxious to receive your suggestions for possible future topics.

Finally, I admit there is real pleasure serving this society in the company of officers and board members who volunteer so much time and energy to ASLO affairs, for the enduring benefit of our disciplines. As a result of its unique existence as a professional association not aligned with either university or federal science administrations, ASLO can and has been a responsible source of evaluation and advice on subjects where our real expertise matters, such as the debates about eutrophication in the 1970s, and about geritol fixes for world climate today. Our members have some obligation to keep thinking about the ways that our knowledge can be communicated effectively beyond ASLO, and then to act on those thoughts or to bring them to the attention of the Board. We have the pleasure and privilege of learning new things about the fresh and salt water features of the earth, but we should not pretend that what we know already is too trivial to be useful.

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## ASLO NEWS

### PERSPECTIVES ON ASLO '92

*Polly A. Penhale, Secretary, Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, VA 23062 (Omnet: P.Penhale)*

The ASLO Aquatic Sciences Meeting, held February 9-14 in Santa Fe, New Mexico, was successful in many ways. A solid scientific program brought together more than 1000 marine and freshwater scientists to share common interests in a city famous for its Southwest culture. A combination of plenary talks, invited and contributed talks, and invited and contributed posters covered a full spectrum of aquatic sciences. Two poster sessions with no concurrent oral sessions provided time for viewing and discussion. And a combined mixer and dance provided the opportunity for socializing after a very full week of presentations. Not everything ran smoothly as planned and we received suggestions on how to improve meetings in the future. Following is a summary of comments I've received on the meeting.

The broad aquatic science theme of ASLO '92 was considered one of the most positive aspects of the meeting. I received many comments on the quality of presentations, both oral and posters. Bringing together the freshwater and marine scientists, which tends not to

happen to such a degree in summer meetings, was viewed as a big plus.

It is clear that the ASLO board will have to wrestle with how to plan meetings that serve interests of all segments of the society. For instance, there were comments that physical sciences weren't as represented as some members wish. Several suggested setting up a schedule to alternate Ocean Sciences meetings with Aquatic Sciences meetings on a regular basis. Meeting with other societies is one way to encourage the type of scientific exchanges that members want. The 1993 ASLO meeting in Edmonton, Alberta will be held with the joint sponsorship of the Society of Wetland Scientists. The ASLO Board and the AGU Ocean Sciences Section have indicated the desire to hold an Ocean Sciences Meeting in 1994. Discussions regarding details for this are underway.

The appropriate balance between oral and poster sessions was a subject where opinions differed. Several commented that there were too many posters. Others enjoyed the opportunity to interact more directly with scientists as they stood next to their posters. Of course, the facility needs to be large enough to accommodate everyone, a lesson we learned Monday night! There were

views expressed that there were too many invited talks. The concentration of invited talks was deliberate for this meeting (and is not a usual ASLO policy) designed to ensure a mix of marine and freshwater for the sessions.

Most of the comments I received were positive and we are seriously viewing the negative comments with the aim to improve our meetings. As Secretary, I play a large role in meeting planning and would like to continue to receive suggestions on how to best organize our meetings to serve all of our membership. If you have any suggestions for the future, please contact me.

### **ASLO-???? JOINT MEETINGS**

Joint meetings represent an effective way to broaden member knowledge and expertise, particularly along the interfaces between disciplines. ASLO has a strong tradition of holding joint meetings. Among others, annual meetings have been held in conjunction with: the American Association for the Advancement of Science, American Fisheries Society, American Geophysical Union, American Institute of Biological Sciences, American Microscopical Society, American Society of Zoologists, Animal Behavior Society, Canadian Society of Zoologists, Ecological Society of America, Marine Technology Society, and the Phycological Society of America. We hope to continue this trend. If you would like to see ASLO meet in conjunction with another society(s), please list them on the enclosed Ballot when you vote for Members-at-Large.

### **COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS MEETING REPORT**

The Council of Scientific Society Presidents (CSSP) was founded in 1976 as a stable and apolitical resource supporting the development of sound scientific policies and practices. Presently nearly 60 presidents of supporting scientific societies with a combined membership of about 1.4 million scientists engaged in the physical, mathematical and life sciences and education belong. Aquatic sciences are represented through ASLO, American Geophysical Union, Ecological Society of America, and Estuarine Research Federation. The primary functions of CSSP are to:

- provide a mechanism for communicating among the various scientific disciplines through the presidents of scientific societies;
- deliberate and adopt public policy positions on science research and education issues of national or international scope;
- facilitate cooperation among the various scientific disciplines;
- develop ways by which scientific information can be made more readily available to the public;
- improve the free flow of scientific information; and
- foster research, study, and dissemination of scientific information.

CSSP holds two meetings a year featuring prominent

speakers and activities related to particular themes. The semi-annual meetings also provide opportunities for informal dialogue over breakfast with members of Congress. CSSP has been especially effective in being able to discuss science policy face-to-face with congressmen. CSSP also develops action plans and position statements which are proposed, debated, and voted upon within the two-day meeting. A number of approaches are used to assure the effectiveness of the CSSP position statements, such as letters sent to specific, interested individuals and position papers and resolutions sent to key groups or organizations.

The December, 1991 meeting of the CSSP was organized around the theme of "Making Choices in Our National Research Agenda". The underlying assumption was that the scientific agenda is and will probably increasingly become larger than the nation can (or will) afford. Scientists must accept the responsibility to not only set priorities within disciplines, but across disciplines as well. While many argued that this would be difficult, if not impossible, the harsh reality seems to be that if the scientific community does not do this itself, some other group will. After setting priorities, the scientific community must then work together to get them implemented.

In his introduction, the CSSP Chair (Gerry Meisels) expressed his hope that the CSSP will be able to act as a leader in establishing priorities within the scientific community and a catalyst for implementing priorities once set. The CSSP encourages member societies such as ASLO to set priorities within their disciplines as a first step toward setting priorities across disciplines. Those interested in more information should read:

Bahcall, J.N., 1991. Prioritizing scientific initiatives.

*Science* 251: 1412-1413.

Bahcall, J.N., et al., 1991. The Decade of Discovery in Astronomy and Astrophysics. *National Academy Press*, Washington, D.C.

Dutton, J.A. and C. Lawson, 1988. Setting priorities among scientific initiatives. *American Scientist* 76: 599-603.

Lubchenco, J. et al., 1991. The Sustainable Biosphere Initiative: An ecological research agenda. *Ecology* 72: 371-412.

The Spring 1992 meeting will be organized around the theme of "Systemic Reform in Science and Mathematics Education" and will explore different programs, aspects, and needs in the area of science and mathematics education.

### **RESOLUTION ON FRESHWATER SCIENCE**

During the business meeting, several resolutions of the CSSP relating to aquatic systems were passed, including resolutions introduced by Jane Lubchenco (ESA) on a sustainable biosphere and on wetlands. The following resolution on Freshwater Science, introduced by John Lehman for ASLO, was approved by unanimous

vote. It will be passed to D. Allan Bromley, the President's science advisor and head of FCCSET, and will be pursued by the CSSP Executive Committee.

WHEREAS the availability and sustainable quality of surface fresh water and its biological resources are vital to human welfare;

WHEREAS the need for basic understanding of aquatic science is prerequisite to sound management of a sustainable biosphere; and

WHEREAS there is not presently any federal coordination and support for the development and intellectual growth of this multidisciplinary field;

THEREFORE the Council of Scientific Society Presidents recommends that the Federal Coordinating Council for Science, Engineering, and Technology develop a coordinated program for the integrative study of freshwater systems.

### **HELP COLLEAGUES FROM ECONOMICALLY DEVELOPING COUNTRIES BECOME AND REMAIN ACTIVE IN ASLO**

*Richard D. Robarts, National Hydrology Research Institute, 11 Innovation Blvd., Saskatoon, Saskatchewan, Canada S7N 3H5 (Tel. 306-975-5743; Fax 306-975-5143)*

Having spent a number of years living and working overseas, I responded to Trevor's request for ideas concerning ways that ASLO could strengthen ties with aquatic science colleagues from economically developing countries. As a result I was asked to establish a Committee on this matter, with a view to making concrete proposals for action by ASLO. Committee members John M. Melack, Janet Reid, Sharon L. Smith, William D. Taylor, C. Susan Weiler, and myself have made a preliminary effort based on a couple of fax-mediated brain storming sessions and a flurry of letters to colleagues in LDC's who had expressed interest in back issues of L&O.

So far we have identified several broad mechanisms to achieve the goals of increasing LDC membership and activity in ASLO, including a system of National Representatives, reduced membership fees or meeting expenses through sponsorship by financially able members, a mentoring program for research and publishing, and seminars and exchange programs between LDC and DC labs. Our ideas are still preliminary and we welcome input from members. For more information or to make suggestions, please contact me at the address above.

One easy way to reduce costs for members from LDC's is for local ASLO members to host one or more members at an ASLO meeting. If you would be willing provide an LDC member with lodging in Edmonton, please let me know.

**PLEASE VOTE** using the enclosed bright orange ballot. See pages 8-9 for information on the candidates.

### **REPORT FROM THE COMMITTEE ON UNDER-REPRESENTED MINORITIES IN LIMNOLOGY AND OCEANOGRAPHY (CURMLO)**

*Benjamin E. Coker, Center for Marine and Environmental Science, Hampton University, Hampton, VA 23668 (Tel: 804-727-5884).*

We had another successful program at the Santa Fe meetings. Participating this year were 56 students and 12 professionals, representing some 30 different institutions and agencies. The students were a diverse group, ranging from a freshmen to a Ph.D. candidate; African, Native, Hispanic Americans, and Pacific Islanders, coming from as far away as Hawaii, Alaska, and Puerto Rico, and from all over the continental US.

Our program began with a pre-conference workshop during the weekend prior to the meetings. John Lehman, President of ASLO, gave welcoming remarks on Saturday evening. This was followed by the keynote address given by John O'Brien, "Unifying principles in the organization of lakes and oceans". Sunday morning was devoted to a fun cultural trip to learn about local Native American bread and pottery making.

Sunday afternoon began with a series of presentations. Drs. Henry Williams and Doretha Foushee schooled us on how to give effective presentations, while Buffy Turner led a panel of students in discussing strategies for getting the most out of an ASLO meeting. This was followed by Tony Gruber and his panel of graduate students who discussed how to get into and succeed in graduate school in the aquatic sciences. After that the students met up with their "meeting mentors" (ASLO volunteers who help the students navigate the meetings).

The group came together again on Wednesday evening for the "Student Symposium". Michelle Penn and Robert Shuford chaired this session of 14 presentations. There was standing room only in the session (>120) as many ASLO members turned out to support the students. The audience was rewarded with a variety of talks that included novel research in a diversity of areas such as physical oceanography, microbial ecology, fish ecology, DNA in cyanophytes, chemical limnology, benthic ecology, and jelly fish biology.

I thank those ASLO members who served as "meeting mentors": Jill Baron, Beverly Baker, David Berg, Brian Bingham, Malcom Butler, Christopher Cirno, Russel Cuhel, David Culver, Carol Daniels, Melinda Davis, Walter Dudley, Doretha Foushee, Tom Frost, Matthew Gilligan, Ambrose Jearld, Diane Lauritsen, Pernel Lewis, Nancy Marcus, David Millie, Mark Ohman, Michael Vanni, Percy Washington, Henry Williams, Craig Williamson, and Jonathan Wilson. I also thank Joan Mitchell and the Oceanography Directorate of NSF for continuing to support these efforts. We have support for one more year on this grant so I look forward to continuing these efforts in Edmonton (1993). I will be applying for several more years of support to continue the program.

## **SALLIE W. CHISHOLM RECEIVES 1991 ROSENSTIEL AWARD**

*C. S. Weiler, Executive Director*

The 1991 Rosenstiel Award for commitments and accomplishments in oceanography was awarded to Sallie W. (Penny) Chisholm. Penny was recognized for playing “a primary role in discovering one of the smallest and most abundant forms of ocean-dwelling plant life—the prochlorophyte picoplankton; she is a leader in the scientific community’s research in phytoplankton cell-cycle processes; and she encouraged and perfected the oceanographic application of the flow cytometer.” The Rosenstiel Award has been presented annually since 1971 by the University of Miami’s Rosenstiel School of Marine and Atmospheric Science.

Penny received her Ph.D. from the State University of New York in Albany, for work on freshwater algae. I was particularly pleased to see Penny recognized, since I owe my career in part to her early guidance. She came to the Scripps Institution of Oceanography for postdoctoral work with Dick Eppley around the time I started my graduate work in his lab. Penny’s enthusiasm and her willingness to tutor me in cell cycles led to my own thesis project. In addition to my foundation in diel rhythms, I was fortunate to receive an early appreciation of the links between fresh and saltwater science from her. She also taught me how to keep an experiment going for 36 hours without falling asleep (pursue a hobby that can be picked up and dropped at will and requires few brain cells, keep treats in the non-radioactive refrigerator, and play lots of music!)

There is much concern now about the conflict between the scientific ideal of collaborative research and competitive pressures. Penny exemplifies those qualities we all strive for but too seldom attain in these increasingly competitive times. Her research style is an example to be emulated, and proof that a natural tendency to share ideas and credit is compatible with life in the “fast lane”, and appropriate even when research funds are scarce.

Penny provided a particularly valuable service to ASLO this past year through her contributions to

ASLO’s symposium on “What Controls Phytoplankton Production in Nutrient-Rich Areas of the Open Sea?” Because it was her sabbatical year, Penny initially didn’t want to get too involved. However, she said she benefited so much from attending the first ASLO Symposium on “Nutrients and Eutrophication” in 1971 (as a “very young graduate student”) that she felt she should help out. Penny not only organized the Program, she went on to chair the Consensus Statement Committee, which developed the Report from the Symposium you all received last year. As those of you who were there know, discussion was heated and opinions divided. Penny’s good nature, insights and balance were essential to the development of a cohesive report. And finally, she agreed to co-edit the Symposium issue of L&O. This was definitely above and beyond the call of duty given her previous service, it is also solid proof of her organizational skills. Congratulations, and thanks again Penny!

## **NSF REPORT ON BBS REORGANIZATION AVAILABLE**

“Adapting to the Future”, the report of the National Science Foundation’s BBS Task Force Looking to the 21st Century is now available. The report was developed by an external group to provide recommendations to BBS for improving its organizational structure and enhancing its effectiveness in responding to future scientific opportunities and challenges. It was instrumental in the decision to reorganize the BBS into two separate directorates. Copies are available from the National Science Foundation, 1800 G St. NW, Washington, DC 20550.

## **ASLO LOGO CONTEST**

Over the past two years, 14 individuals contributed logos to the ASLO logo contest. Entries were varied, imaginative, and of high quality. However, none seemed uniquely suited to ASLO and representative of our full scope. A decision was therefore reached to continue with the existing logo for the present.

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## **1992 ASLO AWARD RECIPIENTS**

### **ROBERT G. WETZEL RECEIVES 1992 G. EVELYN HUTCHINSON MEDAL**

The 1992 G. Evelyn Hutchinson Medal was awarded to Robert G. Wetzel, Professor of Biology at the University of Alabama. ASLO presents this award annually to the individual who best exemplifies the standards of scholarship and creativity set by Professor Hutchinson’s work in limnology and oceanography. Trevor Platt presented the Medal at the ASLO 92 meeting in Santa Fe, New Mexico. The award was given in recognition of Wetzel’s studies of aquatic macrophytes, periphyton, and dissolved organic matter. Research by Wetzel and his

students has produced fundamental discoveries concerning the relative importance and fate of primary production generated by aquatic plants in diverse ecosystems. He developed methods for analysis, quantified rates of metabolism and extracellular release, and evaluated the ecological role of dissolved organic carbon and nitrogen cycled by these plants. These comprehensive studies have led to new understandings about the structure and function of lake and wetland ecosystems.

Wetzel is the 11th recipient of the Hutchinson Medal. The other Hutchinson Laureates and their year of award are: Gene E. Likens (1982), John E. Hobbie

(1983); Richard W. Eppley (1984); David W. Schindler (1985); Eville Gorham (1986); Lawrence R. Pomeroy (1987); Trevor Platt (1988); Daniel A. Livingstone (1989); W. Thomas Edmondson (1990), and Richard C. Dugdale (1991). A brief summary of Wetzel's career and the text of his acceptance speech will appear in L&O later this year.

When asked how he first became interested in aquatic science, Bob immediately answered "an inspiring high-school teacher." His high-school yearbook states that "Wetzel wishes a PhD in Zoology", and in 1962 he graduated with a PhD from the University of California at Davis. His thesis is dedicated to his parents and his high-school mentor Theodore Jones, "who took the time to inspire a fledgling at an early, critical time."

After 3 years post-doctoral research at Indiana University, he joined the faculty of Michigan State University. In 1986, he moved to the University of Michigan. Wetzel joined the Aquatic Biology Program at University of Alabama in 1990. Throughout this time he has integrated physiological and ecological evaluations of productivity and community interactions of species.

In addition to his research accomplishments, Wetzel has developed some outstanding instructional programs in aquatic botany and comparative limnology. Concerned with the lack of high-quality aquatic science textbooks in the 1970's, he wrote several texts to improve the depth and quality of instruction. He has also been passionately concerned with wasteful and damaging use of freshwater resources, and co-authored a widely used book for laypersons on the present and future status of freshwater resources in the United States.

### **SHERRY L. SCHIFF RECEIVES 1992 LINDEMAN AWARD**

*David W. Schindler, Killam Professor of Geology, Univ. of Alberta, Edmonton, AB Canada T6G 2E9*

The Lindeman Award for 1992 was presented to Sherry L. Schiff, of Waterloo University, for the 1990 paper Schiff, S.L., R. Aravena, S.E. Trumbore and P.J. Dillon, "Dissolved organic carbon cycling in forested watersheds: A carbon isotope approach", *Water Resources Research* 26: 2949-2957. This paper reveals both the key role of DOC in mediating freshwater biological and chemical processes, and their vulnerability to human perturbations. This award is presented annually to recognize outstanding work by a limnologist or oceanographer 35 years or younger in age.

I first met Sherry when she applied for a position as a field assistant at the Experimental Lakes Area. In addition to a near-perfect undergraduate transcript in physics, chemistry and biology, she had canoed several thousand miles, including some high Arctic rivers. It seemed that she might not be bored with life in a field camp where the nearest town of any sort was over an hour's drive away, a major problem with summer field assistants who require frequent injections of beer and disco music!

During that first summer, Sherry did the first field measurements that we had been able to make on the respiration of plankton communities in oligotrophic boreal lakes, allowing us to make some extremely valuable calculations. In order to make such measurements in oligotrophic lakes, it was necessary to push techniques for measuring dissolved oxygen to their limits. Sherry was able to do this without difficulty, and it is not surprising that her ensuing work has always been careful and precise.

Sherry proved to be even more interested in aquatic geochemistry and biology than she was in canoeing. After finishing her undergraduate degree, she continued to work at ELA on a Ph. D. project, under the direction of Wally Broecker from Lamont-Doherty Geological Observatory, investigating the mechanisms that produce and consume alkalinity in the sediments of Precambrian Shield lakes and how they are affected by acidic deposition. While at ELA, she met her husband-to-be, Michael English, who was participating in the hydrological program at the site. Following completion of their degrees, both were able to obtain tenure-track positions at Waterloo University in southern Ontario, where Sherry received tenure and promotion to Associate Professor just a few weeks before the Lindeman Award was announced.

As their introduction reveals, DOC is instrumental in regulating and linking a number of key chemical and biological processes in lakes, rivers and groundwaters. While many papers have described the role of DOC in supporting microbial foodwebs, its importance as an ecosystem-scale mediator has not been emphasized. Schiff and her colleagues have been able to calculate ages, sources and rates of turnover for DOC by using a combination of stable and radioisotope methods. They have shown that fulvic acids are far more labile than humic ones, and that the entire DOC pool in surface waters turns over rapidly enough to be highly susceptible to anthropogenic insults.

Sherry was not able to accept the Lindeman Award in person, because the recent birth of her second child did not allow her to attend the meeting. But ASLO and aquatic science have certainly not seen the last of Sherry, for she is certainly one of the most talented geochemists of the next generation, and a great role model for young women pursuing a career in aquatic sciences.

### **1992 STUDENT POSTER AWARDS**

A record number of students (80) entered the Student Poster Award competition at the ASLO 92 meeting in Santa Fe. This Award was instituted in 1988 at the ASLO/Boulder summer meeting. A tradition of an award with local significance was initiated in 1989 at the Joint ASLO/Society of Canadian Limnologists Meeting, where the awardee received a brass goldminer's pan and a Canadian \$100 gold coin. This year, the student poster awardees each received Pueblo Indian pottery. Three

awards were presented in recognition of the large number and high quality of entrees:

**David Drapeau** for Drapeau, D.T. and H.G. Dam, Comparison of two flocculator designs in particle aggregation experiments;

Dave attended Rutgers University where he obtained a B.A. in Biological Sciences in May of 1988. As an undergraduate he participated in SEA semester. This experience led him to pursue graduate studies in Oceanography. Since September of 1988, Dave has been a student in the Department of Marine Sciences at the University of Connecticut. As a masters student Dave participated in a series of projects sponsored by the EPA investigating the ecological and biogeochemical consequences of hypoxia in Long Island Sound. He did his M.S. work, under the direction of Barbara Welsh, on vertical distribution of bacterioplankton during summertime oxygen depletion in Long Island Sound. In addition to his research work, Dave also obtained considerable experience in undergraduate teaching as teaching assistant for Introductory Biology courses. In the summer of 1991 Dave began his Ph.D. studies in the laboratory of Hans Dam. His research, sponsored by ONR, deals with characterization of factors leading to phytoplankton coagulation and aggregate formation. The need for an appropriate device to study phytoplankton coagulation processes resulted in the poster presented at the ASLO meeting. In the immediate future Dave plans to examine the ability of several diatoms to form aggregates in response to nutrient limitation. After graduation he would like to continue his research on planktonic systems and to become involved with marine environmental education.

**Catherine O'Riordan** for O'Riordan, C.S., S.G. Monismith, and J.R. Coseff, A study of concentration boundary layer formation over a bed of model siphonate bivalves

Catherine received her B.Sc. in Mechanical Engineering from Case Western Reserve University in Cleveland, Ohio. She arrived at Stanford to begin graduate studies in 1988, after several years of working in industry and government, including two years at the Division of Water Pollution Control in Massachusetts where she conducted water quality studies of estuaries and coastal areas. After completing her M.Sc. in Water Resources in the Civil Engineering Department at Stanford in 1989 she stayed on to pursue a Ph.D. with Professors Stephen Monismith and Jeffrey Koseff on the hydrodynamics of bivalve feeding. An avid SCUBA diver, she has spent summers exploring marine biology, including the study of subtidal ecology at Stanford's Hopkins Marine Station where she researched the effects of flow direction on growth of colonies of *Membranipora membranacea*. In addition, she has studied invertebrate zoology at Friday Harbor Laboratories. Her current research involves simulating filter feeding of bivalve populations (*Tapes japonica* and *Potamocorbula amurensis*) in a flume to determine the hydrodynamic

constraints on food availability, as well as the effects of siphonal currents on the characteristics of the boundary layer. By using Laser Induced Fluorescence to measure rates of mixing near a bed of bivalves, Catherine has revealed the existence of strong phytoplankton concentration gradients; this is the subject of the poster presented at the ASLO meeting. The results of this study will be used to determine a sink term to be used in numerical models which predict phytoplankton distributions in shallow estuaries. After completing her doctoral degree, Catherine hopes to continue her work on the interactions between biological and physical phenomena in surface waters and their implications for phytoplankton communities.

**Lisa Uttal-Cooke** for Uttal-Cooke, L. Diet and distribution in the midwater worm, *Poebius meseres* Heath in Monterey Bay, California; Lisa graduated from the University of Hawaii-Manoa with a BA in zoology (marine science emphasis). As part of her studies she participated in an ocean-going education program called the "blue water marine laboratory" and also conducted midwater research off the coast of Hawaii. After graduating she taught marine science at the Monterey Bay Aquarium in Monterey, California. It was in this job that she renewed her interest in midwater organisms and decided to pursue a masters degree at the Moss Landing Marine Laboratories. After entering the Moss Landing program, Lisa took a research assistantship at the Monterey Bay Aquarium Research Institute (MBARI) working under Bruce Robison. With the support of the MBARI and grants from the Meyers Foundation, Lisa began conducting gut content studies of midwater gelatinous organisms. She settled on analyzing various aspects of the biology of the aberrant midwater polychaete *Poebius meseres* as a thesis topic, and is currently completing her M.S. at Moss Landing under James Nybakken's direction. Lisa recently won an honorable mention in a competition among student papers presented at the 1991 annual meeting of the Western Society of Naturalists in Santa Barbara, California.

## ASLO MEMBERSHIP FORMS

ASLO Membership Application Forms are now located on the last page of each issue of L&O.

Please xerox the membership application form from your issue of L&O, and give it an aquatic scientist you think might be interested in joining the Society. If you are not doing so already, please make a point of providing each of your students with a copy of the form, and encourage them to join.

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## BIOGRAPHICAL SKETCHES, 1992 CANDIDATES

ASLO is governed by a Board of Directors consisting of the elected officers and seven Members-at-Large, one for every 500 members of the Society. This year we will elect two Members-at-Large to replace William M. Lewis and Mary Silver, who complete their terms in June. Continuing Members-at-Large are: Nancy H. Marcus, Kenneth L. Webb, Benjamin E. Cuker, Diane M. McKnight and Barbara B. Prézelin.

Biographies of candidates Everett J. Fee, Sally MacIntyre, Curtis A. Suttle, and Bess B. Ward are presented below.

Please vote for your two preferred candidates on the enclosed Ballot. It is bright orange so you don't ignore it, and constructed as a postcard with the return address pre-printed to facilitate mailing.

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### **Everett J. Fee** *B.S. 1967 (Iowa State University); Ph.D. 1972 (University of Wisconsin).*

Dr. Fee is a Research Scientist at the Canadian Department of Fisheries and Ocean's Freshwater Institute in Winnipeg, Manitoba. His current research interests include the development of numerical models for estimating in situ phytoplankton photosynthesis in lakes and oceans, and a long-term study of natural variability in a Northwestern Ontario lake-size series.

He served on the Editorial Board of ASLO in 1974-75, and is currently on the editorial board of the journal *Limnetica*, the official publication of the Spanish Association of Limnology. He is presently on the ASLO "Challenges to Limnology" committee, charged with drafting the Society's official position statement on the current status of limnology in the US and Canada.

#### Representative publications:

Schindler, D.W. and E.J. Fee, 1974. The Experimental Lakes Area: whole-lake experiments in eutrophication. *J. Fish. Res. Board Can.* 31: 937--953.

Fee, E.J., 1976. The vertical and seasonal distribution of chlorophyll in lakes of the Experimental Lakes Area, northwestern Ontario: Implications for primary production estimates. *Limnol. Oceanogr.* 21: 767--783.

Fee, E.J., 1979. A relation between lake morphometry and primary production and its use in interpreting whole-lake eutrophication experiments. *Limnol. Oceanogr.* 24: 401--416.

Fee, E.J., R.E. Hecky, and H.E. Welch, 1987. Phytoplankton photosynthesis parameters in central Canadian lakes. *J. Plankton Res.* 9: 305--316.

Fee, E.J., and R.E. Hecky, in press. Introduction to the Northwest Ontario lakes size series (NOLSS). *Can. J. Fish. Aquat. Sci.*

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### **Sally MacIntyre** *B.S. 1972 (Duke University); Ph.D. 1981 (Duke University).*

Dr. MacIntyre is an Assistant Research Limnologist/Oceanographer at the Marine Science Institute of the University of California, Santa Barbara. At UCSB, she is also a member of the Center for Remote Sensing and Environmental Optics.

Her interests include mixing and turbulent transport in the upper mixed layer, thermocline, and benthic boundary layer, in particular tropical lakes and the Southern Ocean. She is interested in determining the effects of physical processes such as turbulence on the ecology and physiology of aquatic organisms, nutrient and gas fluxes, and aggregation of particulates.

She is serving on the Advisory Board of Aquatic Sciences, served on the Editorial Board of *Limnology and Oceanography* from 1985-88, and is a member of Sigma Xi's Ad-hoc Committee on Increasing the Diversity in Science and Engineering.

#### Representative Publications:

MacIntyre, S. and J.M. Melack, 1988. Frequency and depth of vertical mixing in an Amazon floodplain lake (L. Calado, Brazil). *Verh. Internat. Verein. Limnol.* 23: 80-85.

MacIntyre, S., W.J. Lick and C.H. Tsai, 1990. Variability of entrainment of cohesive sediments in freshwater. *Biogeochemistry* 9: 187-209.

Smith, R.C., B.B. Prézelin, K.S. Baker, R.R. Bidigare, N.P. Boucher, T. Coley, D. Karentz, S. MacIntyre, H.A. Matlick, D. Menzies, M. Ondrusek, Z. Wan, and K.J. Waters, 1992. Ozone depletion: Ultraviolet radiation and phytoplankton biology in Antarctic waters. *Science* 255: 952-959.

Melack, J.M. and S. MacIntyre, in Press. Phosphorus concentrations, supply and limitation in tropical African lakes and rivers. In: H. Tiessen (ed.), *Phosphorus Cycles in Terrestrial and Aquatic Ecosystems. Regional Workshop 4: Africa. SCOPE and UNEP, Nairobi 1991.*

MacIntyre, S., Mixing in the euphotic zone of a shallow, turbid lake: Consequences for the phytoplankton. Submitted, *Limnol. Oceanogr. Kilham Symposium Issue.*

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**Curtis Suttle** *B.Sc. 1978 (Zoology, University of British Columbia); Ph.D. 1987 (Botany, University of British Columbia).*

Dr. Suttle is a member of the graduate faculty of The University of Texas at Austin, in the Department of Marine Science. His research interests revolve around biological processes and their interactions with nutrient and energy cycling in freshwater and marine systems. He has used field and laboratory approaches to examine ecological and physiological processes involving bacteria, phytoplankton and zooplankton. Much of his current work focuses on the role of indigenous viruses in aquatic ecosystems.

He has been the recipient of a number of awards including postdoctoral fellowships from the government of Canada (Natural Sciences Engineering Research Council) and from the State University of New York at Stony Brook (Coastal Marine Scholar). As a graduate student he was honored with the Captain T.H. Byrne Scholarship, the Edith Ashton Memorial Scholarship, a British Columbia Government Scholarship for Academic Excellence, a British Columbia Science Council Graduate Research Engineering & Technology Award, a MacMillan Fellowship, and a Natural Sciences Engineering Research Council of Canada Postgraduate Scholarship.

Representative Publications:

Suttle, C.A., A.M. Chan and J.A. Fuhrman, 1991.

Dissolved free amino acids in the Sargasso Sea: Uptake and respiration rates, turnover times and concentrations. *Marine Ecology Progress Series* 70: 189-199.

Suttle, C.A., A.M. Chan and M.T. Cottrell, 1991. Use of ultrafiltration to isolate viruses from seawater which are pathogens to marine phytoplankton. *Applied and Environmental Microbiology*, 57: 721-726.

Suttle, C.A., W.P. Cochlan and J.G. Stockner, 1991. Size-dependent ammonium and phosphate uptake, and N:P supply ratios in an oligotrophic lake. *Canadian Journal of Fisheries and Aquatic Sciences*, 48: 1226-1234.

Suttle, C.A., A.M. Chan, and M.T. Cottrell, 1990. Infection of viruses by phytoplankton and reduction of primary productivity. *Nature* 347: 467-469.

Suttle, C.A., J.A. Fuhrman and D.G. Capone, 1990. Rapid ammonium cycling and concentration-dependent partitioning of ammonium and phosphate: implications for carbon transfer in planktonic communities. *Limnology and Oceanography* 35: 424-433.

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**Bess B. Ward** *B. S. 1976 (Michigan State University), M.S. 1979, Ph.D. 1982 (University of Washington)*

Dr. Ward is an Associate Professor of Marine Sciences at the University of California, Santa Cruz.

Her research focuses on the marine nitrogen cycle, extending to biogeochemical cycling of carbon and nitrogen, with emphasis on bacterial transformations.

She has served on the editorial board of ASLO, and has participated in and contributed to documents resulting from workshops on Arctic Systems Science (various agencies), Dynamics of the Continental Margin (DOE) and Marine Molecular Ecology (DOE). Relevant service work includes membership on oversight committees for marine operations and analytical facilities in her current and previous positions, and service on numerous NSF panels.

Representative Publications:

Ward, B. B., K. A. Kilpatrick, P. C. Novelli, and M. I. Scranton, 1987. Methane oxidation and methane fluxes in the ocean surface layer and in deep anoxic waters. *Nature* 327: 226-229.

Ward, B. B. and O. C. Zafiriou, 1988. Nitrification and nitric oxide in the oxygen minimum of the eastern tropical North Pacific. *Deep-Sea Res.* 35: 1127-1142.

Ward, B. B., K. A. Kilpatrick, E. Renger, and R. W. Eppley, 1989. Biological nitrogen cycling in the nitracline. *Limnol. Oceanogr.* 34: 493-513.

Ward, B. B., 1990. Immunology in Biological Oceanography and Marine Ecology. *Oceanography* 3: 30-35.

Ward, B. B., in press. The subsurface methane maximum in the Southern California Bight. *Continental Shelf Research*.

**Global Environmental Change Education:**

Lectures from an interdisciplinary honors class entitled "Global Environmental Change", offered at the University of Rhode Island, spring 1991 are available in edited version in the Marine Technology Society Journal, Volume 25, numbers 3 & 4.

**Women in Science:** The Dec. 1991 issue of Discover was devoted to "A Celebration of Women in Science." Aquatic scientist Mimi A. R. Koehl was one of the 11 scientists featured.

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## REQUEST FOR NOMINATIONS FOR 1993 ASLO AWARDS

### G. EVELYN HUTCHINSON MEDAL

Nominations are being solicited for the G. Evelyn Hutchinson Medal. The medal is awarded annually to the individual who best exemplifies the standards of scholarship and creativity set by Professor Hutchinson's work in limnology and oceanography. The award is made in recognition of continued excellence in any aspect of limnology and oceanography. Emphasis in selection will be given for work done during the preceding 5-10 years or for contributions of an active scientist whose work continues to be recognized for its importance in aquatic sciences. The award is intended to symbolize the quality and innovations toward which the society strives and to remind its members of these goals. ASLO members who have been honored with this award are: Richard C. Dugdale, W.T. Edmondson, Richard W. Eppley, Eville Gorham, John E. Hobbie, Gene E. Likens, Daniel A. Livingstone, Trevor Platt, Lawrence Pomeroy, David W. Schindler, and Robert G. Wetzel.

The 1993 medal will be awarded at the ASLO 93 meeting in Edmonton, AB Canada. Each nomination must be supported by a letter (not to exceed two pages) on qualifications. This letter should be crafted so that it could be the basis of the presentation speech for the nominee who is selected for the award. The nomination package may also include a list of important publications and other pertinent information, but in total this package shall be no more than three pages. A nomination letter can be supported by signatures of more than one ASLO member or a list of supporting signatures can be sent to support the nomination package. Nominations should be sent to the ASLO Executive Director, Dr. C. Susan Weiler, Dept. Biology, Whitman College, Walla Walla, WA 99362 (Tel: 509-527-5948; Fax: 509-527-5961; Omnet: S.Weiler).

### NOMINATIONS FOR 1993 LINDEMAN AWARD

Nominations from all ASLO members are invited for the 1993 Lindeman Award, to be presented at the ASLO 93 meeting in Edmonton, AB, Canada. This award is presented annually in honor of Raymond L. Lindeman (1915-1942), to recognize an outstanding paper written by a young scientist.

The initial gift to create a fund for the Lindeman award was made in 1986 by Lindeman's colleague in graduate school, Charles B. Reif of Wilkes College, PA. Lindeman received his Ph.D. in March, 1941 from the University of Minnesota, and in Sept. 1941 began postdoctoral work with G. Evelyn Hutchinson at Yale. His career was cut short by his death in April, 1942; he was only 27. The paper for which he is most remembered was published posthumously in 1942 ("The trophic-dynamic aspect of ecology", *Ecology* 23: 399-418). This paper was a result of his thesis work on Cedar Creek

Bog, Minnesota, and he already had a draft version completed when he joined Hutchinson at Yale. The final manuscript benefited from discussions with Hutchinson, and Hutchinson was instrumental in getting the manuscript accepted for publication (it was initially rejected by reviewers). This paper has since become the foundation for research on the flow of energy in plant and animal communities. For more information about Lindeman, read:

Cook, R.E., 1977, Raymond Lindeman and the trophic-dynamic concept in ecology, *Science* 198: 22-26; and Reif, C.B., 1986, Memories of Raymond Laurel Lindeman, *Bulletin of the Ecological Society of America* 67: 20-25).

Previous Lindeman Award recipients are: James W. Ammerman (1987) for Ammerman, J.W. and F. Azam, 1985, Bacterial 5'-nucleotidase in aquatic ecosystems: A novel mechanism of phosphorus regeneration, *Science* 227, 1338-1340; Marlon R. Lewis (1988), for Lewis, M.R., W.G. Harrison, N.S. Oakey, D. Hebert, and T. Platt, 1986, Vertical Nitrate fluxes in the oligotrophic ocean, *Science* 234: 870-873; Cabell S. Davis III (1989) for Davis, C.S., 1987, Components of the zooplankton production cycle in the temperate ocean, *J. Mar. Res.* 45: 947-983; James J. Elser (1990) for Elser, J.J., M.M. Elser, N.A. MacKay and S. R. Carpenter, 1988, Zooplankton-mediated transitions between N- and P-limited algal growth, *Limnol. Oceanogr.* 33: 1-14; Bart T. De Stasio, Jr. (1991) for De Stasio, B.T. Jr. 1989, The seed bank of a freshwater crustacean: Copepodology for the plant ecologist, *Ecology* 70: 1377-1389; and Sherry L. Schiff (1992) for Schiff, S.L., R. Aravena, S.E. Trumbore and P.J. Dillon, 1990, Dissolved organic carbon cycling in forested watersheds: A carbon isotope approach. *Water Resources Res.* 26: 2949-2957.

Eligible papers must deal with the aquatic sciences, be written in English by an author who is no older than 35 years in 1991, and must be published in a 1991 volume of a peer-reviewed journal. Nominations, which should consist of a copy of the paper and a brief letter describing the impact of the paper on the field, should be sent to the ASLO Executive Director, Dr. C. Susan Weiler, Dept. Biology, Whitman College, Walla Walla, WA 99362 (Tel: 509-527-5948; Fax: 509-527-5961; Omnet: S.Weiler).

#### Filler Wanted:

If you have a brief blurb (See boxed items this *Bulletin* for examples) of potential interest to members of ASLO, please send it to the Editor!! If there's space and it's not offensive, I will accept most anything, including cartoons and bon mots!

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## ASLO FORUM

### **YOUR INPUT INTO THE FEDERAL GOVERNMENT — SUGGESTIONS FOR WRITING YOUR MEMBER OF CONGRESS**

*Sarah Horrigan, National Association of State Universities and Land-Grant Colleges, 1 Dupont Circle, Suite 710, Washington, D.C. 20036 (Tel. 202-778-0846 Fax: 202-296-6456)*

Why should ASLO members care about what happens in Washington, D.C., that bizarre place where DNA stands for Defense Nuclear Agency and ATP is the Advanced Technology Program? There are several reasons. One is that policymakers in Washington are going to have to make policy decisions, and those decisions might be better ones if sound, unbiased information from the scientific community is incorporated into them. Another is that the Federal government provides the financial support for most of the basic research in the U.S., which is of interest to many in the scientific community. (According to the Office of Technology Assessment, the Federal government provides 62% of funding for basic research. The remainder is supplied by industry (21%), universities and colleges (12%), and nonprofit institutions and other (5%).

The chairman of the House Science, Space, and Technology Committee is George Brown, who represents the Riverside area of Southern California. Since assuming the chairmanship of the committee last year, Brown has made several comments that could be warnings to the scientific community. He has commented that scientists must view research funding as “an opportunity that comes with a responsibility, rather than as a right.” The university community has received quite a bit of negative publicity recently, primarily on the issues of indirect costs and scientific fraud, and the constraints on the federal budget are tight. This makes requests for large increases in federal funding for research difficult to justify.

How can ASLO members affect the ongoing processes in Washington, D.C.? One way is to write a letter to your Senator or Representative. Writing a letter is almost guaranteed to evoke a response, particularly in an election year. Making your letter clear and easy to respond to can allow you to have considerable input. Following are a few suggestions:

- Address only one issue in a letter. Each letter is assigned to a particular staff person covering a given issue area. If there is more than one issue per letter, it may be assigned to the wrong staff person, and the reply will be difficult to write, so it will get put at the bottom of the pile.

- A reply that’s easy to write will get put at the top of the pile. An important thing to remember is that Congressional staff are trained to make constituents feel good. Therefore, if you ask for something that’s rela-

tively easy to do and about which the Member is ambivalent (co-sponsor the Sea Grant reauthorization bill, for example), the staff person will comply with your request and write back a pleasant letter. (“Thank you for contacting me about... You will be pleased to know that I support your view...”) That’s a lot easier than rationalizing why the Member is opposed to your view while still trying to keep you as a friend (and supporter).

- Congress is organized in such a way that the appropriations process (where funds for a given year are actually allocated) is somewhat separate from the authorization process (where the merit of a given program is debated). If you are writing your Congressperson with advice on a policy issue, it’s better to keep the funding issue out of the letter; otherwise, scientists become “just another lobbying group”, in Chairman Brown’s words.

How do you know what to ask your Member to do? Associations and societies with Washington offices usually can track legislation and to alert their members about important issues. Some society publications have one-page legislative updates (for example, *Physics Today*, *ASM News*, *EOS*). Associations (groups of institutions rather than individuals) include the Council on Ocean Affairs (COA) and the Board on Oceans and Atmosphere of the National Association of State Universities and Land-Grant Colleges (NASULGC). NASULGC maintains a bulletin board on OMNET with approximately weekly reports of activities in Congress (contact S.HORRIGAN on OMNET to be prompted for the bulletin board if you are located at a NASULGC institution). Staff at COA and NASULGC can also respond to limited individual requests for information about Congressional activities.

### **INTERACTIONS BETWEEN ASLO AND THE AMERICAN STATISTICAL ASSOCIATION**

*Philip Dixon, Savannah River Ecology Laboratory, Drawer E, Aiken, SC 29802*

The American Statistical Association, Section on Statistics and the Environment, has recently started an outreach program to other professional societies. Besides ASLO, some of the other societies being contacted include the American Fisheries Society, American Geophysical Union, American Water Resources Association, and the Ecological Society of America. At the meeting in Santa Fe, the ASLO Board discussed and approved the general idea of interaction with the ASA. Our goal is to increase the interaction and communication between users of quantitative methods and statisticians interested in ecological and environmental applications.

One way to achieve this goal is to organize a symposium on some appropriate statistical issue in

limnology and oceanography. I am the contact person for ASLO. My background is in statistics and ecology, but I am not a limnologist or oceanographer. Hence, I am asking for your help. What sort of topics would be most useful to you? Would the best approach be a tutorial on methods, an exploration of new or state-of-the-art

methods, or some combination of both? Do you have any suggestions for other forms of interaction that would be professionally useful?

Thank you, in advance, for your comments. I hope that this will be the start of a long and mutually beneficial partnership between statisticians, oceanographers, and limnologists.

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## ASLO MEETING ANNOUNCEMENTS

### ASLO 1993 ANNUAL MEETING

The next ASLO meeting will be held in Edmonton, Canada, May 30-June 3, 1993. The meeting will be cosponsored by the Society of Wetland Scientists (SWS) and hosted by the University of Alberta. ASLO plans to maintain the momentum from the ASLO 92 Aquatic Sciences Meeting in Santa Fe, New Mexico by offering a program that balances fresh and saltwater, and basic and applied interests. The scientific program will consist of Plenary Sessions, Symposia, Special Sessions on selected topics, Contributed Paper Sessions, and Poster Sessions. The program will cover the full range of basic aquatic sciences as well as aspects of management and manipulation.

Edmonton offers easy access to the Canadian Rocky mountains, the northern boreal forest, parkland, and northern short-grass prairie. Wetlands cover about 21% of the province of Alberta. There are several thousand freshwater and saline lakes in the Province, including a range of oligotrophic to hyper-eutrophic systems. Field trips will be scheduled before and after the meeting. The 6th GAP (Group for Aquatic Primary Productivity) International Workshop will be held in Saskatoon, June 7-15. Buses will be available to transport registrants from Edmonton to Saskatoon.

The Call For Papers will be sent to all ASLO and SWS members this fall. For further information, please contact the Environmental Research and Studies Center, University of Alberta, Edmonton, AB T6G 2E9, Canada.

AD SPACE

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## JOBS

**Graduate Fellowships in Ecology and Evolutionary Biology.** The W.K. Kellogg Biological Station of Michigan State University announces a new Graduate Research Training Group in Ecology and Evolutionary Biology funded by the National Science Foundation. This program provides long-term fellowship support for Ph.D. students in an integrated, research-based program focusing on Linking Levels of Ecological Organization. The goal is to develop scientists who can synthesize across traditional disciplinary boundaries and levels of ecological organization. Participating faculty work in aquatic and terrestrial environments on microbes, plants, animals and ecosystems. For additional information, contact: RTG Director, Kellogg Biological Station, Hickory Corners, MI 49060 (Tel. 616-671-5117).

**Environmental Scientists.** The Smithsonian Institution has two civil service career openings to join an interdisciplinary basic research team conducting long-term studies in the Chesapeake Bay region.

One position is for an **Environmental Photobiologist** (announcement # 92-3024Q). Experience in measuring spectral solar irradiance and its effects on biological populations, communities, and ecosystems, a Ph.D. or equivalent, and research publications are required.

The second position is for a **Chemical Ecologist** (announcement # 92-3023Q). Experience in both field and laboratory environmental chemistry, a Ph.D. or equivalent, and research publications are required.

Salary for either position is \$38,860. Applicants must be U.S. citizens. For full details please call (202) 287-3102, and press 9. Ask for the appropriate vacancy announcement above, and a full application package. Applications must be received by May 15, 1992. EOE/AA.

### **EQUIPMENT NEEDED FOR STUDYING AQUATIC, NON-TRADITIONAL SPECIES IN TRINIDAD AND TOBAGO**

The Forest Division of Port-of-Spain, Trinidad and Tobago has developed a project for the conservation of threatened and endangered wildlife fauna of Trinidad and Tobago, a component of which has been dedicated to aquatic, non-traditional species. The wildlife laws do not adequately address the management of these species, and therefore several of them are used in commercial trade without official control. This has been so because of the lack of ecological and biological data on their status and distribution. In this regard the major constraint has been the lack of necessary equipment. Therefore the division on behalf of the Wildlife Section is appealing for your assistance in providing any of these items: Geometer (1); Salimeter (1); Current meter (1); Stop Watch (1); Thermometers; Aerators (2); Generators (portable) (2); Refrigerator (1); Dissecting Microscope (1); Long Handle dip net (1); Short Handle dip net (1); Cast net (6') (1); Sieves—3 large, 3 medium, 3 small, 3 mesh size; Serber Sampler (1); Collecting Vials of different sizes; 2 pairs Waders. Contributions may be sent to Selwyn Dardaine, Director of Forestry, The Forest Division, Port-of-Spain, Trinidad and Tobago.

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## CALENDAR OF EVENTS, 1991-1992

### SYMPOSIUM ON MEASUREMENT OF PRIMARY PRODUCTION FROM THE MOLECULAR TO THE GLOBAL SCALE

**Dates:** April 21-24, 1992

**Location:** La Rochelle, France

**Topics:** The symposium objective is to establish a basis for discussing marine primary production what recognizes both the common and disparate features of methods. Participants will describe approaches used to measure marine phytoplankton production, state limits of applicability, and discuss the extent to which the different methods can produce consistent results.

**Contact:** General Secretary, International Council for the Exploration of the Sea (ICES), Palaegade 2-4, DK-1261 Copenhagen K, Denmark (Fax 45-33-93-42-15)

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### CONFERENCE ON GROUND-WATER ECOLOGY

**Dates:** April 27-29, 1992

**Location:** Tampa, Florida, USA

**Topics:** Ecological effects of ground-water and surface-water interaction, distribution and population dynamics of ground-water organisms, and impacts of scientific advances in ground-water ecology on protective laws and policies.

**Contact:** John Simons, Technical Program Chair, US EPA, Mail Code WH550G, 401 M St. SW, Washington, DC 20460 (Tel. 202-382-7091)

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### RBA 1992 SYMPOSIUM, TRANSBOUNDARY RIVER BASIN MANAGEMENT AND SUSTAINABLE DEVELOPMENT

**Dates:** May 18-22, 1992

**Location:** Delft, Netherlands

**Topics:** Transboundary river basin management and water quality control, influence of point and non-point sources and sludge control; planing for transboundary river development and conservation; environmental impact assessment in transboundary rivers; and project studies of transboundary rivers

**Contact:** Prof. J. Wessel, Delft University, Kanaalweg 2 B, 2628 EB Delft, Netherlands (Tel. 015-783565; Fax 015-787105)

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### COURSE, SEAGRASSES: FROM THE MOLECULE TO THE ECOSYSTEM

**Dates:** August 24-Sept. 20, 1992

**Location:** Stazione Zoologica di Napoli, Italy

**Topics:** A practical and theoretical course for graduate and post-doctoral students. Course will cover the eco-physiology and molecular biology of seagrasses. Course will be taught by R.S. Alberte (Univ. of Chicago) and I. Mazzella (Stazione Zoologica di Napoli, Italy)

**Contact:** Jean Gilder, Congressi snc, via G. Quagliariello 35/E, I-80131 Napoli, Italy (Tel: 39-81-546-3779 Fax: 39-81-546-3781).

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### SYMPOSIUM ON OCEAN TECHNOLOGY

**Dates:** August 27-29, 1992

**Location:** National Institute of Oceanography, Goa, India

**Topics:** Ocean engineering and technology; offshore mining; underwater technology, biotechnology, instrumentation, materials technology, remote sensing, pollution, and oceanography.

**Contact:** Dr. B. N. Desai, Director (Attn. Organizing Committee, Int. Symp. on Ocean Technology), National Institute of Oceanography. Dona Paula, Goa-403 004, India.

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#### Filler Wanted:

If you have a brief blurb (See boxed items this *Bulletin* for examples) of potential interest to members of ASLO, please send it to the Editor!! If there's space and it's not offensive, I will accept most anything, including comics and bon mots!

**ESTUARINE RESEARCH FEDERATION AND ESTUARINE & COASTAL SCIENCE  
ASSOCIATION CONFERENCE**

**Dates:** September 13-18, 1992

**Location:** Plymouth, England

**Topics:** Theme: Changes in Fluxes in Estuaries: Implications from Science to Management. Topics: Particle-chemical interactions; fluxes and residence times; system responses to toxicant inputs; larval recruitment in coastal areas; response of fisheries in estuaries to changing fluxes; estuarine modeling; response to changes in river inputs; microbial transformations; and estuarine eutrophication.

**Contact:** Dr. Keith Dyer, Inst. of Marine Studies, Polytechnic South West, Plymouth, PL4 8AA, UK.

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**MARINE TECHNOLOGY SOCIETY ANNUAL MEETING**

**Dates:** October 19-21, 1992

**Location:** Washington, DC

**Topics:** "Global Ocean Partnerships" in resource protection, development and management; space, surface, and sub-surface sensing; navigation, communication/networks and information management infrastructure; education, policy and program issues; and engineering structures, vehicles and equipment.

**Contact:** Marine Technology Society, 1828 L St. NW, Suite 906, Washington, DC 20036.

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**SYMPOSIUM ON CLIMATE CHANGE AND NORTHERN FISH POPULATIONS**

**Dates:** October 13-16, 1992

**Location:** Victoria, BC, Canada

**Topics:** Evidence for climate changes and resulting effects in freshwater and marine environments; effects of climate on fish populations; economic impacts of climate change on fisheries; preparing for climate change.

**Contact:** Dr. R.J. Beamish, Biological Sciences Branch, Dept. of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C. Canada V9R 5K6 (Tel: 604-756-7040 Fax: 604-756-7053).

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**CONFERENCE ON PHYSICS OF ESTUARIES AND COASTAL SEAS**

**Dates:** December 8-10, 1992

**Location:** Margaret River, Western Australia

**Topics:** Theme will be mixing processes, with an emphasis on latest advances in theory, modeling, and measurements. Session topics will include, but are not limited to: baroclinic and barotropic circulation, tidal mixing, intra-tidal mixing, mixing processes between estuaries and adjacent seas, sediment dynamics, water quality, and instrumentation.

**Contact:** Dr. Charitha Pattiaratchi, Centre for Water Research, University of Western Australia, Nedlands, WA 6009, Australia (Tel: 619-380-3179 Fax: 619-380-1015)

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**ASLO '93 MEETING**

**Dates:** May 30 - June 3, 1993

**Location:** Edmonton, AB, Canada

**Topics:** Meeting will cover the full range of aquatic sciences. Building on the momentum from the ASLO '92 meeting, the program will balance fresh- and salt-water, and basic and applied interests. The meeting will be held with the Society of Wetland Scientists.

**Contact:** Environmental Research and Studies Center, University of Alberta, Edmonton, AB, Canada T6G 2E9.

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**GROUP FOR AQUATIC PRIMARY PRODUCTIVITY, 6TH INTERNATIONAL WORKSHOP**

**Dates:** June 7 - 15, 1993

**Location:** Saskatoon, SK, Canada

**Topics:** Theme will be the effects of physical forcing on primary production in inland and marine environments. Four keynote presentations will be followed by hands-on working groups involving physics, nutrient stimulation, light-shade adaptation, and P-R quotients under laboratory and field conditions. Field work will be conducted at nearby fresh and saline lakes. Objectives are to assess the status of knowledge, perform joint field experiments using different techniques to test comparability and reliability, and define major gaps and urgent research needs.

**Contact:** Dr. Richard D. Robarts, National Hydrology Research Center/Environment Canada, 11 Innovation Blvd., Saskatoon SK, Canada S7N 3H5 (Tel: 306-975-6047; Fax: 306-975-5143)

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# CRITICAL NEEDS

The 1991-1992 ASLO Membership Directory is included in this mailing. Please check your listing for accuracy. If there are any mistakes, send corrections to Karen Hickey at the address listed below. **And...**if you have not listed your phone number, fax number, or specialty codes, **PLEASE, PLEASE, PLEASE,**

- **FILL THIS OUT AND SEND IT TO KAREN HICKEY OR MAIL WITH YOUR ASLO BALLOT:**

**NAME** as it appears in the directory: \_\_\_\_\_

\***Telephone Number:** \_\_\_\_\_

\***Fax Number:** \_\_\_\_\_

**Sex:** M/F (*demographic purposes only; will not be printed*)

**Year of Birth:** 19\_\_\_\_ (*demographic purposes only; will not be printed*)

\*\***Highest degree:** \_\_\_\_\_ **Year Awarded:** \_\_\_\_\_  
(*Demographic purposes only; not printed*)

\*\***Discipline:** \_\_\_\_\_  
Enter codes in order of priority if you list more than one code  
**B** - Biological; **C** - Chemical; **G** - Geological; **O** - Optical; **P** - Physical

\*\***Field:** \_\_\_\_\_  
Enter primary first if you list both codes  
**LIM** - Limnology **OCE** - Oceanography

\*\***Environmental Specialty:** \_\_\_\_\_  
Enter no more than four codes, in order of priority  
**E01** - Lakes/Reservoirs/Ponds; **E02** - Rivers/streams; **E03** - Great Lakes; **E04** - Wetlands;  
**E05** - Estuaries; **E06** - Coastal Ocean; **E07** - Open Ocean; **E08** - Most or all

\*\***Disciplinary Specialty:** \_\_\_\_\_  
\_\_\_\_\_ 30 letters, punctuation marks and spaces maximum

- **RETURN TO:** Karen Hickey, ASLO Business Manager, P.O. Box 1897, Lawrence, KS 66044-8897 **FAX 913-843-1274.** Or, if you prefer you can mail it along with your ballot to Susan Weiler, Executive Director (Dept. Biology, Whitman College, Walla Walla, WA 99362) and it will be forwarded to Allen Press for you.

\* Come on guys, I need your help! It's really frustrating to pick up that directory to call someone, and find that 63% of you have not provided phone numbers and 77% have not provided fax numbers! Please send it in!

- \*\* OK, OK, I know some of you don't want to be called and I'm willing to accept it if you won't give out your phone number, BUT! I still need some demographic information!!!! If you don't think it's important that you respond, please consider this:
  - ASLO can't represent your needs if we don't know what you represent!! While in an ideal world, nothing would matter but the quality of a scientific enterprise, here on earth that's not the only factor. Science cannot exist outside the worldly process, and to operate effectively, societies such as ASLO need certain demographic information.
  - I don't give up easily and I'll be hounding you again if you don't respond to this plea!

Sooooo, If your real concern is that you don't want information printed, please "X" below:  
\_\_\_\_\_ I don't want any of this stuff in the Directory, but I know it's important for ASLO to have this information and I am providing it on condition that all "\*" information remains confidential (it goes without saying your birthdate and degree year are confidential).

**DON'T FORGET!** 🍷