



MEETINGS

Calendar

Sudden Oak Death How Concerned Should You Be?

Sudden Oak Death: International Online Symposium

21 April–4 May 2003

The newest APS (American Phytopathological Society) online symposium on sudden oak death syndrome will be live from 21 April to 4 May 2003. ESA is one of the endorsers. Visit their site at <http://sod.apsnet.org> to preview topics and sign up to receive an e-mail reminder when the site goes live.

Scientific presentations that deal with current status of the disease (caused by *Phytophthora ramorum*) and ongoing research, along with interactive sessions, will permit discussion of various aspects of the disease, including fungal identification, ecological impacts, and survey, management, and current control strategies.

<http://sod.apsnet.org>

This symposium is made possible by the USDA Forest Service and Plant Protection and Quarantine/USDA APHIS, and is hosted by the American Phytopathological Society.

Endorsed by: American Phytopathological Society, Ecological Society of America, American Rhododendron Society, American Society of Horticultural Science, Society of American Foresters, Forest Entomology and Pathology Working Group, and Minnesota Nursery and Landscape Association.

This symposium is available to all who have an interest in the recent appearance of a plant disease with the potential to severely impact nursery growers, shippers, the lumber and wood products industry, landscapers, government programs, and others. Scientific presentations concerning the current status of the disease and ongoing research will be presented for a general audience of forestry, nursery, landscape, and government professionals. Sessions will allow ongoing discussion of various aspects of the disease.



Topic areas include:

- Sudden Oak Death as a disease
- Fungal identification
- Disease spread
- Ecological impacts
- Survey, management, control
- Silvicultural aspects
- Arboriculture, urban forestry, landscape, nursery concerns
- Policy and regulations
- Citizen concerns



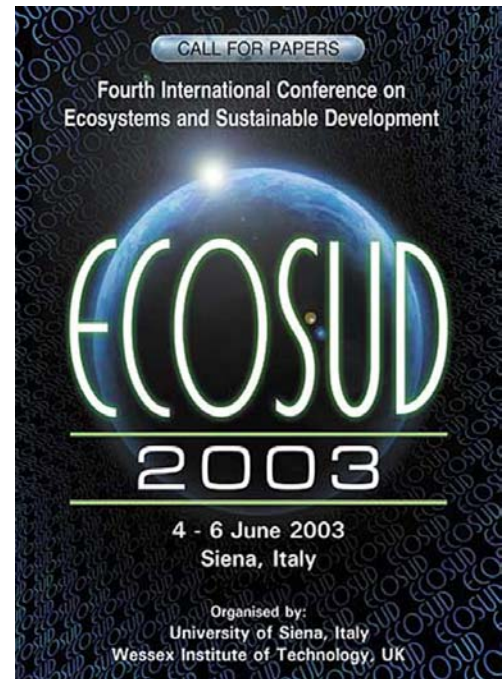
ECOSUD 2003: Fourth International Conference on Ecosystems and Sustainable Development

The Fourth International Conference in the series on Ecosystems and Sustainable Development will be held 4–6 June 2003 in Siena, Italy; it has been organized by Wessex Institute of Technology, UK, and the University of Siena, Italy. The meeting will provide a forum for the presentation and discussion of recent work on aspects of ecosystems and sustainable development, including engineering and modeling. The aim of the conference is to encourage and facilitate interdisciplinary communication among scientists, engineers, economists, and professionals working in ecological systems and sustainable development. Emphasis will be given to areas that will most benefit from the application of scientific methods for sustainable development, including the conservation of natural systems around the world.

Conference topics will include: sustainable development issues; environmental and ecological policies; ecosystems modeling; natural resources management; environmental management; biodiversity; erosion and soil management; water resources; wetland and lacustrine issues; landscapes; forestation; agricultural systems; ecotechnologies; brownfields; energy generation and conservation; thermodynamics in ecology; ecotoxicology models; environmental risk; development economics; recovery of damaged areas; conservation and management of endangered areas; and mathematical and system modeling.

Call For Papers. Papers are invited on the topics outlined above and others falling within the scope of the meeting. Abstracts of no more than 300 words should be submitted by mail, fax, e-mail, or via our web site as soon as possible.

Provisional Program. See our web site: <<http://www.wessex.ac.uk/conferences/2003/ecosud03/index.html>>.



For more information, contact:

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83rd Annual Meeting of the American Society of Mammalogists

The meeting will be held 21–25 June 2003 at Texas Tech University, Lubbock, Texas. In addition to contributed oral and poster presentations covering all aspects of mammalian biology, this year's program will feature two symposia. "Stress in Nature: Physiology, Ecology, and Natural History," will be convened by DeeAnn M. Reeder and Kristin M. Kramer. The second symposium will be a special capstone session entitled "The Future of Natural History," featuring presentations by David Schmidly, E. O. Wilson, and Barry Lopez.


Special addresses will be offered by the recipients of the Joseph Grinnell and C. Hart Merriam awards, as well as by student honorees. Also included are the usual ASM socials, ideal for professional interaction. For additional information and online registration, please visit the meeting web site at <<http://www.dce.ttu.edu/ASM2003/>>. For more information about the ASM, please visit our web site at <<http://www.mammalsociety.org>>. Nonmembers who are interested in attending the meetings and/or presenting papers should request materials from the Chairman of the Local Program Committee:

NOTE: Deadline for abstracts for the 2003 meeting was 24 March 2003.

Plan early for next year's Annual Meeting, 11–16 June 2004, hosted by Humboldt State University, Arcata, California.




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the ecological society of america


 ISEM - north american chapter

 88th annual meeting Savannah Georgia, aug 3-8 2003



Uplands to Lowlands

coastal processes in a time of global change



ESA's 88th

Annual Meeting

Savannah, Georgia

3-8 August 2003

held jointly with the

International Society for Ecological Modeling

ESA Program Chair: Thomas W. Swetnam

Program Chair for ISEM: Dave Mauriello

Local Host Chair: Ronald Carroll

Meeting Highlights

Overnight, One Day, and Post-Meeting

Scientific Field Trips to Sapelo and

Ossabaw islands, Jones Ecological

Center, Altamaha River Biosphere and

the Okeefenokee Swamp

Scientific Programs and Symposia, 90

Exhibits and Displays, 104 Sessions of

Contributed Papers

On-site infant and toddler care and age-

appropriate youth summer camp

For more information visit <www.esa.org>

 or contact the Meetings Coordinator,

 ESA, 1707 H Street NW, Suite 400,

 Washington, DC 20006 Phone: (202) 833-8773

Frontiers in Assessment Methods for

the Environment (FAME)

10-13 August 2003

A symposium on recent advances in environmental measurement and assessment technologies, modeling, and data processing tools to promote a cleaner environment will be held 10-13 August 2003 at the Coffman Union of the University of Minnesota, Minneapolis, Minnesota.

The meeting is sponsored by the Association of Environmental Engineering Science Professors (AEESP), with financial support from the National Science Foundation, in collaboration with the American Academy of Environmental Engineers, American Institute of Chemical Engineers, American Society of Mechanical Engineers, American Society of Limnology and Oceanography, American Water Resources Association, Ecological Society of America, International Society for Exposure Assessment, the National Oceanographic and Atmospheric Administration, U.S. Environmental Protection Agency, and the U.S. Geological Survey.

This symposium will bring together scientists and engineers from many disciplines responsible for the groundbreaking technological advances being made in environmental measurement systems and assessment methods. These advances promise to revolutionize the way scientists and engineers study and solve complicated environmental pollution problems over a range of scales. They include an impressive array of new in situ instruments and profilers, chemical and biological sensors, new modeling techniques to simulate physical, chemical, and biological processes in complex systems, and continuing advances in the computer systems and informatics needed to take advantage of the large databases (terabytes) generated by the new technologies. Symposium participants will have an opportunity to learn about several proposed NSF funding initiatives for highly instrumented and networked environmental field research facilities, such as CLEANER, that build on, and are a natural outgrowth of, these technological advances. (CLEANER, the Collaborative Large-scale Engineering Assessment Network for Environmental Research, is an initiative within the Environmental Engineering Program of the NSF.) For details on symposium arrangements and the call for papers, please see <<http://www.aeesp.org>> or <<http://wrc.coafes.umn.edu/FAME/>>.

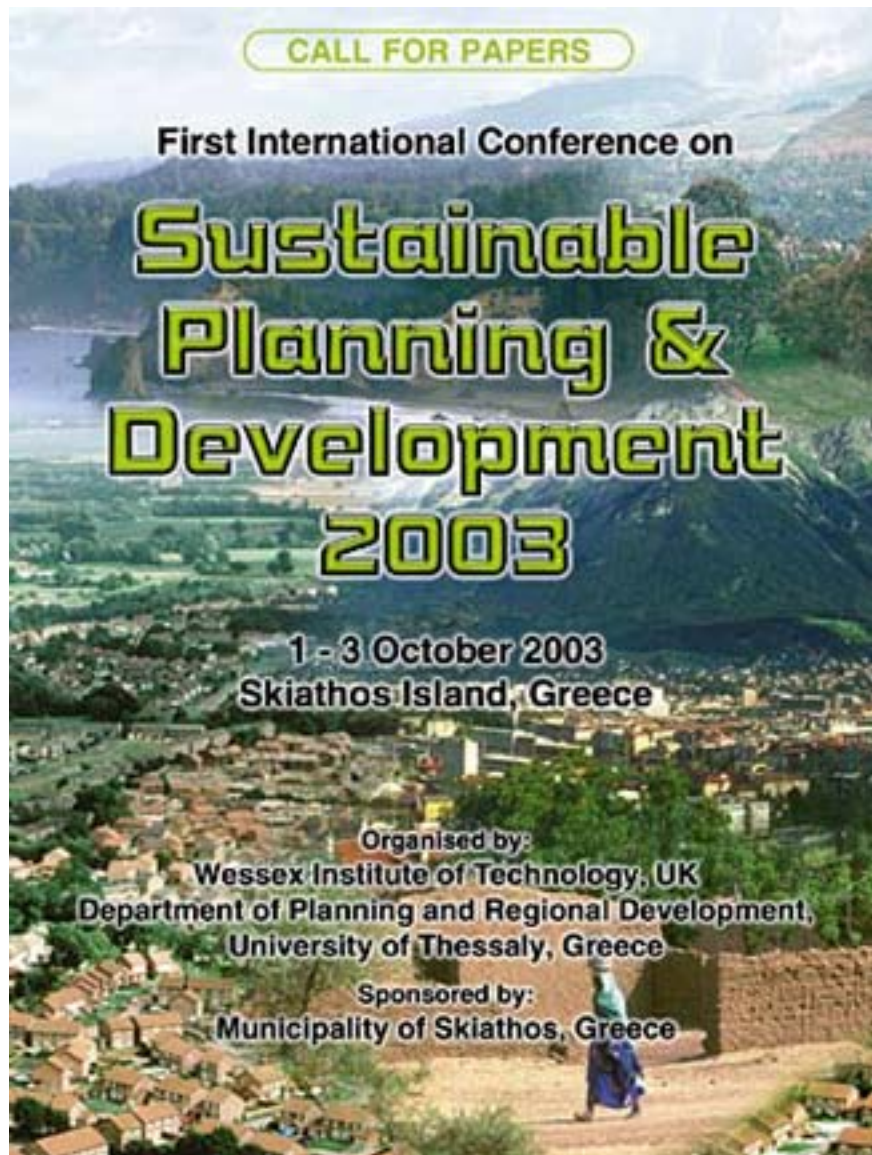


First International Conference on Sustainable Planning and Development

This conference, held 1–3 October 2003 on Skiathos Island, Greece, is organized by the Wessex Institute of Technology, UK, and the University of Thessaly, Greece. It will address spatial planning and regional development in an integrated way, in accordance with the principles of sustainability, providing a common forum for all scientists specializing in the range of subjects included.

Abstracts (≤ 300 words) should be submitted as soon as possible by mail, fax, e-mail, or the web to the addresses below. For instructions on submitting a paper, visit http://www.witpress.com/author_instruction.html. Proceedings of the conference will be available through publication by WIT Press.

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<<http://www.wessex.ac.uk/conferences/2003/planning03/index.html>>



CALL FOR PAPERS

First International Conference on
**Sustainable
Planning &
Development
2003**

1 - 3 October 2003
Skiathos Island, Greece

Organised by:
Wessex Institute of Technology, UK
Department of Planning and Regional Development,
University of Thessaly, Greece

Sponsored by:
Municipality of Skiathos, Greece

Fourth North American Forest Ecology Workshop, 16–20 June 2003: "Ecosystems in Transition"



This ESA-cosponsored workshop will bring researchers, academicians, and managers together to discuss issues related to basic and applied research in forested ecosystems of North America, which are in transition from past climate, disturbance, and human activity. Increasing human influences on fire regimes, forest stand development, land use patterns, pathogens, and global ecosystem cycles may accelerate change. Previous emphasis on stability, equilibrium, and predictability has broadened to incorporate models based on nonequilibrium, chaos, complexity, and uncertainty. Researchers are struggling to understand ecosystem dynamics and communicate insights to managers and the public. Managers are struggling to apply policies that may be based on unrealistic assumptions. Plenary Speakers are Dr. Kenneth Lertzman, Dr. Nalini Nadkarni, Dr. Robert Naiman, and Dr. David Rizzo. Dr. Daniel Botkin is the keynote speaker. See <http://outreach.cof.orst.edu/nafew>.

Selected 2003 Conferences of Interest to Ecologists

For a detailed calendar, see the announcements posted by ESA's Public Affairs Office at <<http://www.esa.org/meetingcal.htm>> Asterisks denote meetings co-sponsored by ESA.

27–31 May 2003, Athens, Georgia, USA

Meeting of the North American Benthological Society

Contact Darold Batzer: (706) 542-2301; dbatzer@bugs.ent.uga.edu. Visit <http://www.benthos.org/>.

8–13 June 2003, New Orleans, Louisiana, USA

24th Annual Conference of the Society of Wetland Scientists

This meeting addresses interdisciplinary, innovative approaches and technologies for sustaining wetlands across diverse spatial scales worldwide. Contact Co-Chair Dr. Robert R. Twilley, Center for Ecology and Environmental Technology, University of Louisiana, PO Box 42451, Lafayette, LA 70504 USA; ceet@louisiana.edu; Phone: (337) 262-1776; Fax: (337) 262-1866. See <http://www.sws.org/neworleans/>.

*** 16–20 June 2003, Corvallis, Oregon, USA (co-sponsored by ESA)**

4th North American Forest Ecology Workshop, "Ecosystems in Transition"

Researchers, academics, and managers will discuss issues of basic and applied research and advances in the management of dynamic forests and human influences. <http://outreach.cof.orst.edu/nafew>.

17–19 June 2003, London, UK

9th International Interdisciplinary Conference on the Environment

Deadline is 30 April. Contact Kevin L. Hickey (khickey@assumption.edu; 508-767-7296) or Demetri Kantarelis (dkantar@assumption.edu; (508)-767-7557). See <http://www.desu.edu/mreiter/iea.htm>.

28 June–2 July 2003, Duluth, Minnesota, USA

17th Annual Meeting of the Society for Conservation Biology: "Land and Water Interactions"

The early registration deadline is 1 May. See <http://www.d.umn.edu/ce/conferences/scb2003/>.

19–23 July 2003, Boise State University, Boise, Idaho, USA

Annual Meeting of the Animal Behavior Society

Submit abstracts, register, and pay by 2 May, all online. Contact Jim Belthoff jbelto@boisestate.edu or Al Dufty aduffy@mac.boisestate.edu. See <http://www.animalbehavior.org/ABS/Program>.

25–30 July 2003, Honolulu, Hawaii, USA

Annual Meeting of the American Society of Plant Biologists

Early bird registration deadline is 15 May. The meeting will include invited participants from Pacific Rim plant biology societies. See <http://www.aspb.org/meetings/pb-2003/>.

26–31 July 2003, Mobile, Alabama, USA

Annual Meeting of the Botanical Society of America: "Aquatic and Wetland Plants"

This will be a joint meeting with the American Society of Plant Taxonomists, the American Bryological and Lichenological Society, and the American Fern Society. See <http://www.botany2003.org/>.

5–9 August 2003, University of Illinois, Urbana-Champaign, Illinois, USA

121st Meeting of the American Ornithologists' Union

Abstracts must be received by 1 May; early registration deadline is 23 June. Contact Program Coordinator Peter_Lowther@fieldmuseum.org. See <http://nautilus.outreach.uiuc.edu/conted/conference.asp>.

10–14 August 2003, Quebec City, Quebec, Canada

133rd Annual Meeting of the American Fisheries Society: "Worldwide Decline of Wild Fish"

Early bird registration deadline is 11 July; it is too late to submit abstracts. For information, see http://www.fapaq.gouv.qc.ca/fr/AFS_congres/accueil.htm.

14–17 August 2003, Crested Butte, Colorado, USA

75th Anniversary of Rocky Mountain Biological Lab

This symposium will explore the value of conducting science in model ecosystems. Chairs: David Inouye, Michael Kelrick, Ward Watt, John Harte, and Michael Soulé. Contact Dr. Ian Billick at (970) 349-7231 (director@rmbi.org) or see www.rmbi.org/modelecosystem/modelecosystems.html.

14–18 September 2003, University of Washington, Seattle, Washington, USA

17th Biennial Conference of the Estuarine Research Federation

The attributes and influences on Pacific Rim estuaries, coastal, and open ocean forces on North American West Coast estuaries will provide a unique flavor. Contact Helen Schneider: helens@sgmeet.com.

26–29 October 2003, Cincinnati, Ohio, USA

Annual Meeting of the Entomological Society of America

Online abstract submission 1 May–10 June. http://www.entsoc.org/annual_meeting/2003/index.html

2–6 November 2003, Denver, Colorado, USA

American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Annual Meetings

These meetings gather 4,000+ people from 40 countries in academia, government and industry. Over 2,800 symposia and oral sessions. Abstracts due 23 July. <http://www.asa-cssa-sssa.org/anmeet/>.

*** 3–7 November 2003, Fort Lauderdale, Florida, USA**

IPINAMS-EMAPI7 “Invasive Plants in Natural and Managed Systems”

A workshop linking science and management will be held jointly with the 7th International Conference on Ecology and Management of Alien Plant Invasions. See <http://www.esa.org/ipinams-emapi7/>.

9–14 November 2003, Fortaleza, Ceará, Brazil

VI Brazilian Congress of Ecology/Brazilian Society of Ecology

This is a conference on the dynamics and wealth of Brazilian ecosystems, their management and conservation. Contact geograf@ufc.br and vcs@ufc.br (Dra Vanda Claudino Sales)

19–22 November 2003, Austin, Texas, USA

15th Annual Conference of the Society for Ecological Restoration

The deadline for abstracts is 15 May. See http://www.ser.org/meeting.php?pg=annual_conference.

1–4 December 2003, Queenstown, New Zealand

Deep Sea 2003 Conference

The Ministry of Fisheries (NZ), Department of Agriculture, Fisheries and Forestry (Australia), and FAO host an international discussion of present and future needs for science and governance of slope and deep-sea fisheries. See <http://www.deepsea.govt.nz>.

1–5 December 2003, Christchurch, New Zealand

Third International Wildlife Management Congress

The Wildlife Society (USA), Manaaki Whenua/Landcare Research (NZ), the Australasian Wildlife Management Society, the Ngai Tahu Maori tribe, and the NZ Department of Conservation Te Papa Atawhai host the first wildlife management meeting of this magnitude in the Southern Hemisphere. It will include both theoretical and practical perspectives. <http://www.conference.Canterbury.ac.nz/wildlife2003/>.

Invasive Plants in Natural and Managed Systems and the 7th International Conference on the Ecology and Management of Alien Plant Invasions

3–7 November 2003, Ft. Lauderdale, Florida

Deadline 15 May for contributed abstracts

Registration opens on 15 July; early bird closes on 31 August; standard closes on 15 October. Late and on-site registration available. Fees ~US\$200–250; discount for students. *To join the mailing list, contact ipinams@esa.org.*

Conference Co-Chairs Carla D'Antonio (Ecological Society of America) and Nelroy Jackson (Weed Science Society of America) and the EMAPI Organizing Committee invite you to participate in this exciting event.

Anticipated Participants

Ecologists, weed scientists, private and public land managers, agricultural scientists, botanists, weed management specialists, horticulturalists, extension personnel, agriculture and natural resources educators, nursery professionals, biological control investigators and practitioners, transportation and utility representatives, others interested in invasive plant issues.

Plenary Session Themes

Prevention, Early Detection and Rapid Response; Control, Management and Restoration; Policy, Science and Management; Synthesis and Global Issues

Symposia Topics

Biological weed control; Contributions of weed science to management of invasives; Developing management strategies to restore desired plant communities; Ecological impacts of invasive plants on native ecosystems: assessment, patterns, implications; Ecological resistance and community invisibility; Economic impacts of weed principles in management of invasive plants; Global change and invasive plants; Mathematical models for natural area managers to control invasive species; Impacts of invasive plant management on recovery of endangered species; Predicting invasiveness and preventing entry; Propagule pressure and people; Restoring weed-resistant plant communities the old-fashioned way; Role of genetics and rapid evolution in spread, impact, and control of damaging weeds.

Workshops

Setting priorities with limited resources; Detecting, mapping, and assessing invasive exotic plants; Early detection, rapid assessment and rapid response; Exotic species effects on soil and potential impacts on restoration; Harmonization of regulations and lessening jurisdictional conflict; Using fire to control invasive plants; Information and data sharing; Invasive plant management case studies and models of success; Management/research interface; NEPA guidance; Pathways of invasion; Weed list criteria; Workshop for K–12 teachers to develop educational materials on invasive species

Roundtable Discussions

Options for containment and eradication vs. sustainable control through biological, integrated methods; Public outreach and education; State regulatory tools for managing invasive species; What do we expect the situation to be 20 years from now?

Field Trips

Within a 3-hour drive are Everglades National Park, Biscayne National Park, and Big Cypress Preserve and two large restoration projects. Descriptions are under development.

Exhibitor Opportunities

Companies and organizations may exhibit their products, services, and programs, sponsor the conference and specific events, rent exhibit booth space, and advertise in the program or bags received by attendees. Contact ipinams@esa.org.



Meeting Reviews

Ecology of Fire and Invasive Plants: Integrated Management for Ecosystem Restoration

“Fire and Invasive Plant Ecology and Management: the Need for Integration to Effectively Restore Ecosystems,” a symposium at the Joint Meeting of ESA and SER (the Society for Ecological Restoration) in Tucson, Arizona, 6 August 2002. Symposium sponsors included the U.S. Geological Survey and Bureau of Land Management, Rangeland Ecology and Applied Ecology sections of ESA, SER’s Northwest Chapter, and the U.S. Interagency Joint Fire Sciences Program.

The complex interactions of fire and invasive plants were the focus of a well-attended symposium at the joint meeting of ESA and SER in August 2002. The severe wildfire season occurring at the time, and increasing concern about the effects of plant invasions on native biodiversity, made the symposium timely for land managers in the Western United States, and it became clear that these issues are also prominent among conservationists in Australia, Africa, and elsewhere in the world. Broadly speaking, the symposium’s conclusions were that both fire and invasive plants are highly variable in their causes and effects, and that more research, both theoretical and applied, is needed to develop practical, effective management tools. It was not clear, however, if the theoretical foundations or the practical understanding necessary to apply this theory were clearly identified in the session.

Managing fire or invasive plants alone is difficult enough; together they may pose a daunting challenge for managers working to preserve intact ecosystems or restore degraded ones. As M. L. Brooks and C. M. D’Antonio stressed in the opening paper, fire is a discrete disturbance event that changes ecosystem, com-

munity, or population structures, but not all fires are the same. Low-intensity fires may have little effect on vegetation structure or soil properties, but moderate- and high-intensity fires can have strong and, in some cases, opposing effects. A moderate fire can increase soil nutrient availability, for example, whereas a high-intensity fire can decrease it. Although fires do not themselves disperse invasive plant propagules, their indirect effects on dispersal and establishment can be strong, both by altering competitive interactions and resource distribution, and via human activities associated with fire management, such as road and fire-break construction. To further complicate matters, fire can have synergistic effects with other disturbances such as grazing and fuel reduction activities.

R. J. Hobbs echoed several of these observations in his paper reviewing fire and invasive plant interactions in Australia. Disturbance, he noted, facilitates establishment of 95% of the major weeds in Australia, but not all disturbances result in invasions. It appears that interactions with other factors are key. Fires in unfragmented landscapes, for example, are much less likely to lead to plant invasions than fires in areas where roads act as corridors for dispersal. The size, frequency, and intensity of fires are also important variables. Finally, different plant species (and, by extension, communities) respond very differently to fire. Some invasive plants increase fire frequency and intensity, and in turn benefit from the fires, in a vicious cycle. Others will die from fire, or will die if a fire is followed by drought conditions. In some cases, mortality depends on the timing of the fire.

D. M. Richardson, P. W. Rundel, and B. W. van Wilgen reviewed the impacts of invasive alien plants on fire regimes, using examples from North America, South Africa, and the Hawaiian islands. They distinguished between “discrete-trait invaders” that add new functions to ecosystems and “continuous-trait invaders” that pro-

duce quantitative but not qualitative change. Examples spanned almost every possible permutation: invasive plants that increase fuel loads, that decrease fuel loads, that change fuel structures (horizontal, vertical, or both), that increase or decrease fuel moisture or fire spread, or that change the seasonality of fire occurrence. The likely increase in atmospheric CO₂ in the future, moreover, may have strong effects on arid systems, particularly grasslands, necessitating an ongoing adaptive approach to fire and invasive plant management.

A general conceptual model of fire-invasive plant interactions, presented by J. B. Grace, mirrored the preceding findings. Grace stressed the context dependency of these interactions and summarized the state of the knowledge as “incomplete.” More mechanistic studies are needed to improve this, he said, and he described one such study of Chinese tallow, an invasive tree that threatens coastal tallgrass prairies along the western coast of the Gulf of Mexico. Mature stands of Chinese tallow are inflammable, interrupting the fire regime on which the prairies depend. The study attempted to determine a “critical tree size” or threshold beyond which prairie could not be restored by the use of fire. No such threshold tree size was found, although fuel loads and seasonality were important variables from a management perspective.

J. E. Keeley noted recent policy directives in the National Park Service and U.S. Forest Service aimed at preventing plant invasions, and considered the impact of fire management practices on invasive plants in several forest systems in the western United States. Fire suppression per se has not caused invasions, but may indirectly promote invasions by increasing fuel loads, thereby increasing the intensity of fires when they do occur. Even lower intensity prescribed fires, designed to reduce the threat of high-intensity wildfire, may trigger invasions, if for example they occur out of season (rela-

tive to the natural fire regime). Another fuel management practice, mechanical thinning, may lead to invasions by creating corridors and areas of soil disturbance that subsequently become propagule sites. Finally, postfire rehabilitation using exotic species may result in invasions, with subsequent synergistic impacts on fire regimes.

M. L. Pellant and D. A. Pyke reviewed the case of cheatgrass (*Bromus tectorum*) in the Intermountain West: perhaps the most infamous fire-invasive plant interaction in the region. Cheatgrass, a prolific nonnative winter annual, dominates more than 20 million acres in the Great Basin, where it shifts the fire return interval from 100–150 years to 5–10 years, virtually eliminating the native co-dominant, sagebrush. Fires, if carefully timed, can reduce cheatgrass populations, but at the cost of increasing other weeds. Pellant and Pyke suggested a plan of “assisted succession” by which nonnative crested wheatgrass is seeded following burning. The wheatgrass can outcompete the cheatgrass for a period of years, during which the cheatgrass seedbank is depleted. Then, seeding of natives may succeed.

In the symposium’s final paper, J. M. DiTomaso offered a variety of prescriptions for integrated pest management using fire. Fire alone is effective with woody species such as mesquite, juniper, and sagebrush, and with some herbaceous biennials such as mustard. For herbaceous annuals, however, the situation is more complex. Repeated fires over three or more years may be required to reduce the target species’ seedbank. Cutting, herbicide application, seeding, and fire can be effective in controlling seven major invasive annuals, if conducted in specific sequences and carefully timed to the target species’ phenology.

The papers were informative and engaging, both individually and collectively, and the large crowd indicated the level of interest in the topic. There can be no doubt that:

- fires can increase or decrease invasive plants;
- invasive plants can increase or decrease fires;

- the timing, intensity, and size of fires can determine impacts on vegetation in general and invasive plants in particular;

- other factors, such as roads, can strongly determine fire-invasive plant interaction effects.

If these conclusions are unavoidable, however, two questions should be addressed. First, theoretically speaking, are these two categories—fire and invasive plants—really all that helpful, especially when used together? They are powerful in terms of policy and politics, but their ecological impacts are so variable and context dependent that one struggles to see how any general theory of their effects and interactions could be achieved. I cannot conceive of alternative categories for fire, but “invasive plants” could be improved; after all, the *plants* themselves are not the problem, but rather their *interactions* with myriad other factors: fire, soils, climate, humans, roads, other vegetation, and so forth. If a plant species invades a fragmented landscape but not an unfragmented one, clearly the plant should be a second-tier priority for research and conservation action. “Invasion events” or “invasion episodes” might serve better by focusing attention on preconditions and susceptibilities, of which certain kinds of fires (e.g., high-intensity or out-of-season) are important examples.

Second, as a practical matter, what are the real obstacles to the kind of integrated management sought by the symposium? Lack of scientific knowledge may be important in some cases, but its importance in many more may be exaggerated, a by-product of frustration in the search for a general theory. Clearly, there is a lot we do know and should apply; as Hobbs put it in the question and answer period, “just don’t do the same thing everywhere—experiment and monitor.” The bigger problem, in the western United States, at least, isn’t the interaction of fire and invasive plants but the lack of interaction between fire managers and other parties concerned for the diversity and integrity of plant communities. For bureaucratic, political, and budgetary reasons, the fire management apparatus in the United States has a long history of near autonomy, if not outright unaccountability, in its activities. Severe wildfire seasons such as the summer of 2002 may exacerbate this. A paper addressing these problems, and proposing solutions, would be a valuable addition to future symposia.

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**Plan ahead for upcoming ESA
Annual Meetings**



ESA’s 89th Annual Meeting
 Portland, Oregon
 1–6 August 2004

ESA’s 90th Annual Meeting
held jointly with INTECOL
 Montreal, Ontario, Canada
 7–12 August 2005

ESA’s 91st Annual Meeting
 Memphis, Tennessee
 6–11 August 2006

