

U.S. Regional Association of the International Association for Landscape Ecology

US-IALE Newsletter

January 2009
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Working with Local Practitioners: Historical Aerial Photographs and Ecosystem Services

Involving local communities in resource management is among the foremost challenges in ecosystem management throughout the world. A wide variety of landscape ecology tools and datasets can aid the management of natural resources by helping incorporate local and indigenous knowledge and values. For example, participatory mapping has been used to foster involvement of local people from rural Canada to Cameroon, as images and photography can provide ways for people

from contrasting backgrounds, and even differing languages, to visualize and share common landscape information. Historical maps, in particular, can be linked with narratives and interviews with Elders, where maps of past landscape conditions are created related to memories of important cultural practices and important events, even for locations currently inaccessible or long-since altered by land cover changes.

At the University of British Columbia, researchers in the



Landscape Ecology Lab (led by Sarah Gergel) have been working with Haida Mapping (aboriginal cartographers), Haida Heritage and Forest Guardians, and other agencies to adapt high spatial resolution imagery to

(Continued on page 5)

US-IALE 2009 Annual Meeting: Snowbird, Utah *12-16 Apr 2009*

Registration Now Open

We are looking forward to seeing you at our annual meeting in Snowbird, Utah. The conference theme **“Coupling Humans and Complex Ecological Landscapes”** reflects the real world well and is a rap-

idly developing frontier of interdisciplinary research. The symposia, workshops, presentations, student activities, and other events will provide meeting participants with ample opportunity to exchange exciting and new

ideas. Thomas Baerwald, President of the Association of American Geographers and the National Science Foundation’s Senior Advisor and Director of the Program on “Dynamics of Cou-

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Annual Meeting

(Continued from page 1)

pled Natural and Human Systems,” will deliver a keynote address and will be happy to speak with those who would like to pursue NSF funding. Many leaders in research on Coupled Human and Natural Systems (CHANS), including principal investigators funded by Baerwald’s program, will present their cutting-edge research. The first cohort of CHANS Fellows sponsored by the International Network of Research on Coupled Human and Natural Systems (CHANS-Net) and supported by NSF will give presentations at the conference as well.

Field trips and workshops

are included in the array of interesting opportunities awaiting meeting participants. Whether it is grappling with urbanization of natural landscapes or attempts to restore altered landscape, fieldtrips provide opportunity to explore pressing landscape issues. Workshops include Bayesian methods for landscape ecologists, data mining , moving from 2D to 3d with Lidar and a complimentary workshop that addresses the challenges and opportunities in research on complexity of coupled human and natural systems. Need a sounding board or facilities to connect with a colleague, check

out the access to a “Hot Topics and Random Discussions Room” scheduled for Tuesday afternoon.

Over 350 abstracts have been received and authors have been notified as to the status of their abstracts. Abstracts will re-open again in late February for any last minute editing. **We are encouraging early conference registration, and especially lodging reservations** so we can determine if additional rooms are needed at Snowbird. See you at Snowbird!

Tom Edwards
Program Chair,

John Bissonette
Local Host

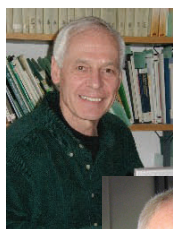


Annual Meeting: Register Now

Intellectual exchange

Beautiful surroundings

Field trips and workshops



Local Host John Bissonette (left) and Program Chair Tom Edwards (right), for the upcoming Annual Meeting at Snowbird

Conference Links:

[Annual Conference](#)

[Conference Registration](#)

[Conference Sponsorship—Snowbird](#)

[CHANS-Net](#)

[Snowbird Lodging](#)

[Conference Program](#)

[Sponsorship Information](#)

[Abstract Submission](#)



Student news and notes

Three events have been organized for students at the 2009 US-IALE meeting in Snowbird, UT.

The student social will be held on Monday, April 13 from 9-11 pm. Join us and meet fellow students in a relaxed setting. Appetizers and limited bar service will be provided, courtesy of US-IALE. Location will be advertised at the conference reception desk.

The student-mentor lunch will be held on Monday, April 13 from 12:00-1:20 pm. The student-mentor lunch brings students and landscape ecology professionals together to discuss professional development issues in a small group setting. Both students and professionals sign up in advance for this event through the online conference registration process, and indicate their desired future occupation (students) or current job (professionals): teaching faculty, research faculty, government research, government management, state or county agency, or non-profit organization. We will try to match students and professionals according to their professional aspirations. This is a free event, but registration is mandatory.

The NASA-MSU professional development workshop will be held on Tuesday, April 14 from 1:00-5:00

pm. This year’s workshop, entitled “*Interviewing for Landscape Ecology Jobs*”, will bring together young professionals who recently went through the interview process, as well as more senior professionals who have been on search committees, to share their experience and insight into interviewing for landscape ecology jobs. A panel of speakers working in different types of organizations will talk about the qualities that make good candidates in their respective institutions, and talk about some pitfalls to avoid. We invite graduate students, post doctoral fellows, and other interested individuals to participate. This free workshop is sponsored by the NASA-MSU Professional Enhancement program.

These free events are supported by US-IALE and other sponsors to encourage student interactions and professional development – make sure to take advantage

of these opportunities! Check out the “**Just for Students**” section of the [conference website](#) for additional information about student activities and room sharing options.

We are still looking for nominees for the student representative position for 2009-2011. Have you considered becoming a student representative? Being a member of the executive committee allows you to meet many professionals in your field and gives you insights into the functioning of a national scientific organization. US-IALE's student activities are coordinated by two student representatives, who have overlapping two-year terms, with 1 position replaced each year. If you want to get involved or have questions, contact us!

See you in Snowbird!

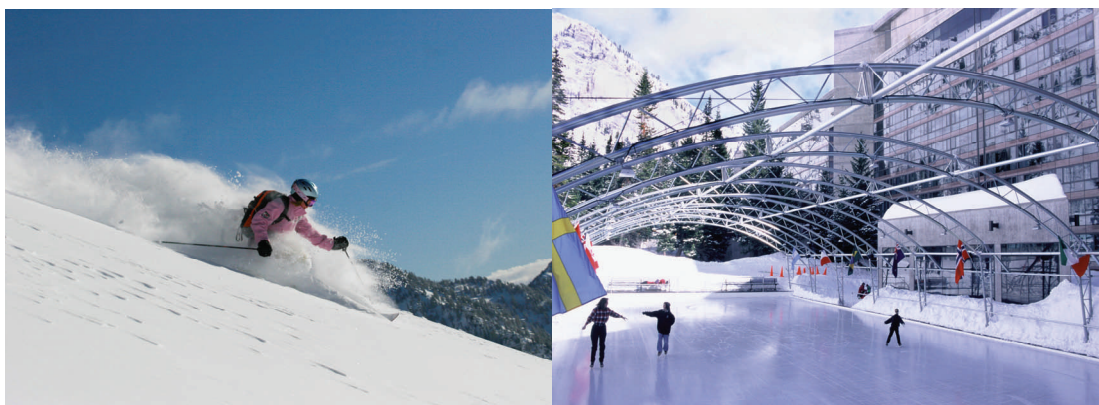
**Martin Simard
Namrata Shrestha
Student Representatives**



Student representatives Namrata Shrestha and Martin Simard

Student networking opportunities are an important emphasis for the upcoming annual meeting at Snowbird.

Check out student travel award opportunities on the conference web site!





Jianguo (Jack) Liu
US-IALE Chair

Message from the Chair

In the midst of the global financial crisis, I would like to highlight a few pieces of good news.

US-IALE's net worth increased by almost 30% in 2008. For this exceptional increase, I am very grateful to the organizers of the outstanding conference in Wisconsin last year, members and others who made generous donations and contributions, and past and current Executive Committees (especially past and current Treasurers) who pursued a solid financial management strategy.

The upcoming conference in Snowbird, Utah promises to be another outstanding event, thanks to the hard work of Tom Edwards (program chair), John Bissonette (local host), Cindy Delaney (meeting planner), Matt Gregory (webmaster), Rebecca Kennedy (web coordinator), and others.

Another piece of good news is that registration fees for the 2009 conference have been *reduced by 30% for student members and by 20% for regular members*, compared to last year. Furthermore, more benefits (e.g., "free" conference banquet) will be provided. [Registration](#) is now open. Please register early to take advantage of the lower

registration fees.

The reduction in registration fees is in part made possible by generous sponsors. US-IALE would greatly benefit from additional sponsorship from individuals and organizations. If you or individuals and organizations that you know are interested in sponsoring the conference, please see ways and benefits of sponsorship developed by the [Sponsorship Committee](#) chaired by Bob Keane. All donations are tax-deductible

At the 2009 conference, the Executive Committee will hold an *Open Forum* with members and friends from 4:00-5:00 pm on April 12 (Sunday). We hope this new format of business meetings will provide for closer interactions between the Executive Committee and our membership. Please plan to arrive early in Snowbird for the Forum. In case you are not able to attend the Forum, please send your questions, comments, and suggestions to [Colleen Hatfield](#), US-IALE Secretary. Meeting minutes and reports will be posted on the [US-IALE web site](#).

Making more good news for 2009 depends on your continued support and contributions to US-IALE. If you have not renewed your membership for 2009, please do so now by visiting

[US-IALE Membership](#). Also, please invite your colleagues and students to become members of US-IALE. Membership fees are very modest (\$30 for students and \$45 for others) compared to those of many other professional societies. If you have any questions about membership, please email [Pat Zollner](#), Chair of the Membership Committee or [Cami Martin](#), Membership Secretary.

The Executive Committee and I look forward to seeing you all at the 2009 conference in Snowbird in April.

Many thanks
Jianguo (Jack) Liu
US -IALE Chair

To kick off the Annual Meeting in Snowbird, the Executive Committee extends an invitation to join them at an Open Forum on Sunday, April 12 from 4:00-5:00.

Sponsorship Committee

In the winter of 2008, Jack Liu formed a Sponsorship Committee to address the problem of rising conference registration costs and to stimulate formal partnerships with government agencies, universities, and private companies. Conference costs are skyrocketing and conference registration is becoming prohibitively expensive, especially for students. A possible way to lower the registration fees is to increase revenue for the annual conference by obtaining sponsorship from a wide variety of organizations. The mission of the Sponsorship Committee is “to contact and recruit possible sponsors for the annual US-IALE conferences, and develop and maintain a database of possible sponsors”. The committee consists of Paul Hessburg, Brian Sturtevant, Jerry Grif-

fith, Laura Musacchio, Kathryn Lindsay and me as chair. Our most important duty at the present is to actively solicit sponsors for the annual conference. We are also compiling a database of past and potential sponsors that hopefully will be helpful to the conference organizing committees.

We have developed some detailed guidelines for sponsoring the conference. There are currently five levels of sponsorship 1) Global (\$5000), 2) Continental (\$2000-\$5000), 3) Regional (\$1000-\$2000), 4) Ecosystem (\$500-\$1000), and 5) Patch (\$250-\$500) with each of these levels providing the sponsor with various benefits from free booth registrations (a \$600 value) and full page advertisements in the program (\$200-\$500 value) to verbal recognition at the conference. Inter-

ested organizations have the option of sponsoring a coffee break, general session, keynote presentation, or even the banquet. In return, they get benefits commensurate with their sponsorship amount. Details of all [sponsor guidelines](#) are presented at the US-IALE website.

We challenge all US-IALE members to hit the streets and try to get sponsors for our annual conference. If you know someone or some agency that is interested in sponsoring the most exciting landscape ecology conference in the US, contact me or the conference organizers and we'll do the rest.

Bob Keane
Sponsorship Committee
Chair

Sponsorship committee provides opportunities for organizations and companies to increase their profile with conference attendees and helps to lower attendees costs.

Local Practitioners

(Continued from page 1)

their needs. Collaborative remote sensing workshops have been held and are in development to address the use of historic aerial photos for mapping ecosystem baselines and to develop linkages among mapping, monitoring and adaptive

management. Remotely-sensed imagery has always been a common tool for managing broad landscapes, and spatial data can now be captured at sub-metre resolution. As a result, a wide variety of new and exciting landscape-level questions can be addressed, but answers will require creative

and novel approaches to incorporate local viewpoints and perspectives.

**Sarah Gergel and
Jessica Morgan**



US-IALE web-site has a new look

We are pleased to announce the launch on Feb. 1 of the redesigned [US-IALE Website](http://www.usiale.org) (www.usiale.org). Check out the new look and let us know what you think. We have restructured the underpinnings and some of the organization of the existing

site, while maintaining the content used by the US-IALE community. The revamp establishes a new technical infrastructure for the site, in preparation for the development of a more dynamic website with functionality and appearance that can be tai-

lored by individual user. New site content, such as teaching resources, student-focused topics, and other members-only value-added information, will be added as these components are completed. We hope you like the redesigned website and find it useful.

Rebecca Kennedy,
Website Coordinator
Matt Gregory,
Webmaster

US-IALE
US Regional Association of the International Association for Landscape Ecology

[About US-IALE](#) [Annual Meetings](#) [Membership](#) [Resources](#)

Student Section
Welcome to US-IALE

Mission of US-IALE

US-IALE's purpose is to:

- foster landscape ecology in the United States
- provide a link among practitioners in landscape ecology within the United States as well as the international community
- promote interdisciplinary research and communication among scientists, planners, and other professionals concerned with landscape ecology

Become a Member

Low cost of membership

Regular Member	\$45
Student Member	\$30

For more information about US-IALE, see our [membership page](#).

Who Would Benefit from US-IALE Membership?

Landscape Architects	Ecologists
Land and Nature Managers	Conservation Biologists
Land Use Planners	Biogeographers
GIS Specialists	Spatial Statisticians
Wildlife Biologists	Ecosystem Modelers

Membership Rewards

- Annual Symposium (Registration Discounts)
- US-IALE Newsletter
- IALE Bulletin
- Stay 'in the loop' with the major players in the field
- Special communications via listserver and web sites
- Free posting of [job announcements](#) on the US-IALE website

By joining US-IALE, you automatically become a member of the umbrella international organization, the International Association for Landscape Ecology (IALE). If you are a member, or are considering becoming a member, we ask your feedback on our draft [Strategic Plan](#).

Member Login

Username:

Password:

Latest News

Snowbird 2009 Website

The US-IALE 2009 Snowbird website is now [live](#). Check often for information about abstract submission, registration, meeting venue and deadlines.

Student Sponsored Travel to Snowbird

There are many programs available to help offset the cost of student travel for this year's meeting in Snowbird, including the [NASA-MSU program](#) and the new [student travel awards](#).

Madison 2008 Website

The US-IALE 2008 [Madison Meeting](#) addressed landscape patterns and ecosystem processes. The conference program is available.

US-IALE Sponsorship Committee

The new [Sponsorship Committee](#) serves to contact and foster possible sponsors for annual US-IALE conferences.

IALE Bulletins

International Association of Landscape Ecology [information](#) and [bulletin](#) are available through the IALE web site.

US-IALE Nominations and Elections

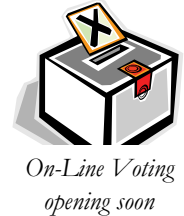
Elections for the following offices for US-IALE will occur in March 2009:

- 1 Chair-elect
- 1 Secretary

- 1 Councillor-at-Large
 - 1 Student Representative
- Voting will take place electronically, via the US-IALE website. Stay tuned for

forthcoming election details.

Nancy McIntyre
Nominating Committee
Chair



New On-Line Teaching Resources for Landscape Ecology

US-IALE will soon be posting a new web-page for members which will include Teaching Resources for Landscape Ecology. Initially, the site will include links to various pre-existing webpages for Landscape Ecology courses. We hope

that this will help inspire new instructors while they are designing their courses. If you find that your course is not listed, please send an email to [Sarah Gergel](#). Depending on the use, interest, and willing contributions from the US-IALE commu-

nity, the site may evolve towards more detailed downloadable resources. Keep an eye out for this new site!

Sarah Gergel
Councillor-at-Large

Web Site Resources for members are expanding.

Check out the soon-to-be-added teaching resource link.

Feature articles a new addition to the US-IALE Newsletter

The US-IALE Newsletter has expanded to include a feature article in each newsletter release. In this issue we feature efforts by researchers at the University of British Columbia to incorporate local and indigenous knowledge and values and historic photos with modern tools to define ecosystem baselines and to develop linkages among mapping, monitoring and adap-

tive management.

We invite you to consider writing a feature article for the Newsletter. All topics, including applied applications, that pertain to landscape ecology are welcome.

Feature articles should be written in a clear, engaging style and accompanied with illustrations or photos to supplement your article. Please limit article length to

700 words or less. Illustrations and pictures should be of sufficient resolution to clearly illustrate your theme. Submission deadlines are mid-December and mid-May for newsletter publication released in December and June.

Contact [Colleen Hatfield](#), Newsletter Editor, if you have questions or wish to submit an article to be considered for the Newsletter.

Have something you would like to share? Consider submitting an article for the Newsletter

US-IALE Winter 2009 Awards Update

Although the nomination period has closed, the Awards Committee is looking forward to announcing winners for the following awards at the 2009 annual banquet in Snowbird, Utah.

Further information about each award and a complete list of past award recipients can be found at [US-IALE Awards](#) website.

Outstanding Paper in Landscape Ecology

The Awards Committee reviews nominations for papers published during the past year that make an outstanding contribution to the literature of the field of landscape ecology. In 2008, the outstanding paper award was presented to Falk et al. (2007) for their publication "Cross-scale analysis of fire regimes" in *Ecosystems* (10:809-823). There also were two honorable mention awards presented to Gobster et al. (2007) for "The shared landscape: what does aesthetics have to do with ecology" in *Landscape Ecology* (22:959-972) and Koper et al. (2007) for "Residuals cannot distinguish between ecological effects of habitat amount and fragmentation: implications for the debate" also in *Landscape Ecology* (22:811-820).

Distinguished Landscape Ecologist

The intent of this award is to recognize unique individuals whose long-term scientific contribution have helped to define the field of landscape ecology, and is the most prestigious award presented by our Chapter. Recent recipients included Eric Gustafson (2007), Bruce Milne

(2006), and H. Ronald Pulliam (2005).

Distinguished Landscape Practitioner

The intent of this award is to recognize outstanding applications of the principles of landscape ecology to real-world problems. Recent recipients included David Hulse (2005), Fredrick Steiner (2004), and the USGS GAP Program (2003).

Distinguished Service Award

The intent of this award is to recognize individuals who have contributed exceptionally in terms of time, energy, and dedication to advance the mission of US-IALE. Recent recipients included Garik Gutman, William Taylor, and Jack Liu (2006) and David Mladenoff (2005).

Best Student Presentation

The intent of this award is to recognize the best presentation (oral or poster) given by a student at the previous annual meeting, and includes a \$500 travel grant. For presentations given at the 2008 meeting, awards will be presented to Bronwyn Rayfield (University of Toronto) for "Patch size affects plant extinction rates in an experimentally fragmented landscape" and Sarah Olson (University of Wisconsin) for "Determining landscape-scale Lyme disease risk patterns in the Mid Atlantic Region, USA".

NASA-MSU Professional Enhancement Awards

The NASA-MSU Professional Enhancement Awards are being

offered for the 12th consecutive year to students who are presenting at the 2009 annual meeting. Approximately 20 awards will be given for the selected students to cover expenses associated with attending the symposium. These special awards are made possible by the support from the National Aeronautics and Space Administration (NASA) and Michigan State University (MSU). The selected students will have opportunities to meet with some leading landscape ecologists at a special dinner gathering, learn the latest developments in landscape ecology at the symposium, and build professional networks with other symposium attendees.

Sponsored Student Travel Awards

This is a new award category for 2009. Local sponsors for the 2009 meeting have graciously donated funds to provide ten \$500 travel awards to students. Sponsors include the US Geological Survey, Cooperative Research Units Program, the Utah State University College of Natural Resources and the Ecology Center, and the State of Utah Department of Natural Resources, Wildlife Resources Division.

Check out "[Just for Students](#)"

The 2008 US-IALE Awards Committee

**Pete August, Geoff Henebry,
Jeff Hollister, Steven Walters,
& Anita Morzillo (chair)**

Quantifying Connectivity in heterogeneous landscapes

The overarching goal of my research is to understand how spatial population processes and species interactions contribute to biodiversity persistence in human-modified landscapes. Specifically, my ongoing doctoral research focuses on ways that we can maintain and restore connected networks of habitat patches that support the long-term persistence of species. To do so, I am developing a formal conceptual framework for the quantification of landscape connectivity based on a modified net-

work-theoretic approach that identifies multiple paths between pairs of habitat patches (least-cost corridors).

I am honored to have received the Best Student Oral Paper Award at the 2008 US-IALE Meeting in Madison, Wisconsin for my presentation "Identifying potential movement pathways in fragmented landscapes: incorporating uncertainty in landscape resistance," co-authored by M.-J. Fortin and A. Fall. This presentation showcased one aspect of my PhD research. I am

grateful to have this opportunity to summarize the results from my presentation and to briefly describe how I have been following up on this work.

The research for my presentation in Madison was motivated by the observation that measurements of landscape connectivity increasingly form the basis of conservation planning decisions. Quantifying landscape connectivity often involves assigning organism-specific "cost values" that

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2008 Student Awardee
Bronwyn Rayfield, PhD
Candidate (*Spatial Ecology*)

Supervisor: Dr. Marie-Josée Fortin, Department of Ecology and Evolutionary Biology, University of Toronto, Canada

Creating new regional-scale predictive models of vector-borne infectious

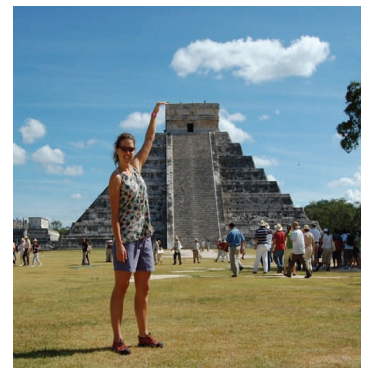
The persistence and emergence of vector-borne infectious diseases -- in both developing and developed countries -- dramatically affects global health. In the tropics, mosquito and fly vectors transmit some of the world's most debilitating and deadly diseases, including malaria, trachoma, schistosomiasis, Chagas disease, lymphatic filariasis, onchocerciasis, leishmaniasis, dengue, and Japanese encephalitis. Malaria alone accounts for 2.5% of global mortality (Lopez et al. 2006), or over

1 million people per year. In the higher latitudes the spread of these "tropical" diseases is limited both by cooler climates and developed health care and disease monitoring systems. Yet even the wealthiest countries have been challenged to contain vector-borne infectious diseases like Lyme disease, Ross River virus, Chikungunya, and West Nile virus. The disease ecology of a vector-borne disease is unique and depends on overlapping environmental niches of agent,

vector, and hosts -- in addition to human host behavior and innate immunity. Deepening our understanding of these complex systems and their fundamental relationships to climate and the ecological conditions of landscapes is necessary to develop sustainable and healthy environments.

Climate, in particular, underpins the biological requirements of vector-borne diseases. Temperature and the abundance of water con-

(Continued on page 11)



2008 Student Awardee
Sarah Olson, Joint PhD
Candidate at Center for Sustainability and the Global Environment (SAGE) within the University of Wisconsin-Madison

Biodiversity Persistence in Human-Modified Landscapes

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The sensitivity of landscape connectivity assessment is highly dependent on complex interactions among habitat fragment, amount of hospitable matrix and relative cost values

reflect the quality of the habitat in terms of ecological and energetic costs incurred by an individual moving through them. Despite their pervasive use in conservation planning, there is considerable uncertainty associated with these cost values. Hence, this study examined the sensitivity of landscape connectivity assessments, based on least-cost paths and graph-theoretic methods, to the set of cost values employed. Artificial landscapes were generated comprising three landcover types ranked consistently from low to high quality: inhospitable matrix, hospitable matrix, and habitat. The area and degree of fragmentation of each landcover were manipulated in a factorial experiment for a total of 20 combinations replicated 100 times. In each landscape we compared 5 sets of relative landcover qualities (cost values ranged from 1 to 1000). The results showed that the sensitivity of least-cost links to relative cost values was modified by the composition of the matrix. Assessments of landscape connectivity were most sensitive to cost values in landscapes with less than 50% hospita-

ble matrix landcover. Sensitivity decreased as habitat fragmentation decreased and the amount of hospitable matrix increased. The degree of fragmentation of the matrix landcover types did not affect the sensitivity. Overall, the sensitivity of landscape connectivity assessments was highly dependent on a complex interaction among habitat fragmentation, amount of hospitable matrix, and relative cost values. Clearly the uncertainty associated with cost values cannot be ignored. To cope with this uncertainty, we proposed that multiple paths should be identified between pairs of habitat patches that collectively delineate probable movement zones rather than single least-cost paths. These probable movement zones should be less sensitive to variation in landcover cost values.

For the remainder of my PhD, I am developing a framework to quantify landscape connectivity that uses this approach of identifying multiple paths between pairs of patches and combines it with a network-theoretic approach. A number of network connectivity statistics have been proposed to quantify the connectivity of these types of habitat net-

works. I employ a similar simulation approach to compare these connectivity statistics and test their predictability given controlled changes in landscape composition and spatial configuration. Thus far I have found that the sensitivity of network connectivity statistics to landscape structure depended on whether they were local or global, topological or topographical and reductionist or integrative. This year at the 2009 US-IALE Meeting in Snowbird, I will present results from this research. I look forward to seeing you there!

**Bronwyn Rayfield,
2008 Student Awardee**

Creating new regional-scale predictive models of vector-borne infectious diseases

(Continued from page 9)

strain the seasonality, daily survival, reproduction, abundance and over wintering of most vectors, hosts and agents. Warmer temperatures can affect malaria through the exponential decrease in replication time for parasites inside the mosquito gut, which increases transmission risk. Furthermore, dry seasons in Africa limit water resources in the Sahel and increase transmission of Guinea worm transmission via snail vectors. Broadly, we find that the balance of temperature and precipitation sets the stage for disease transmission, and in addition to playing a role in the life cycle of vectors, hosts and agents, climate contributes to the formation of the environmental landscape in which they interact.

We also know that the ecological conditions of the landscape, including the type and arrangement of land use and land cover, define the habitats and interactions of vectors, hosts and agents. For example, Yellow fever and Dengue fever are spread primarily in urban areas because *Aedes aegypti*, its mosquito vector, is well suited to urban environments and breeds in artificial pools of water. Also, the Bromeliad malaria epidemic in Trinidad is linked to establishment of cacao plantations and roadside

deforestation, thereby increasing the abundance of *Anopheles darlingi* malaria vectors in the Peruvian Amazon. In the temperate latitudes, recent research of Lyme disease shows not only the type of land cover, but also its arrangement can be an important predictor of risk. Overall, disease vectors are members of food-webs and ecological systems, implying that vector-borne diseases are linked to ecological landscape systems that regulate predator, competitor and prey relationships.

The Millennium Ecosystem Assessment has recognized disease-regulation as an important “ecosystem service” provided by the environment, and noted that the quantification of these services is still lacking. Previous vector-borne disease risk studies were not able to address regional scale assessments of environmental change, both in terms of climate and landscape change. These studies, which collected local observations with detailed environmental variables, based on transect or on-the-ground observations, cannot project or quantify impacts regionally. On the other hand, simplified global models of disease ecology are still extremely limited by course climate information, which omit critical landscape and climate-landscape interactions all together.

New satellite imagery and climate-linked hydrological / ecosystem models have opened a new toolbox of measures that can quantify landscape characteristics and interactions relevant to vector-borne diseases. Using these new tools, there are tremendous opportunities for a new, regional approach that will bridge local and global scales, leveraging high-resolution landscape, climate, and health data to improve the assessment of vector-borne diseases as regulated by ecosystems.

Sarah Olson is currently a Joint PhD candidate (Population Health and Environment & Resources) at the Center for Sustainability and the Global Environment (SAGE) within the University of Wisconsin-Madison and EcoHealth Student Representative. She is developing an integrated, regional perspective of how climate and landscape conditions affect critical vector-borne diseases in the tropics and temperate latitudes. Her primary research focuses on the effects of climate and landscape on malaria in the Amazon Basin. When not at SAGE or on the computer, she is outside, trail running, mountain biking, climbing, hiking, playing ultimate, and nordic skiing.

Sarah Olson
2008 Student Awardee

Integrated regional perspective of how climate and landscape conditions affect critical vector-borne diseases.

2009 Latin American IALE Conference

Landscape Ecology in Latin America: Challenges and Perspectives

Campos do Jordão, São Paulo, Brazil, 4-7 of October 2009

In October 2009 the first Latin American Landscape Ecology Conference (*2009 Latin American IALE Conference*) will be held in Brazil at the city of Campos do Jordão, São Paulo State. This event results from the effort of several researchers who, since 2003 World IALE Conference in Darwin (Australia), work for the establishment of the International Association for Landscape Ecology (IALE) in Latin America.

Latin America presents new challenges to Landscape Ecology due to its large heterogeneity of environmental conditions, from deserts to tropical forests, from the Andes to the coastal plains, from Equatorial to Polar Regions. In addition, there is a wide diversity of socio-economic and cultural conditions, merging several indigenous native cultures with European, African and Asian influences. Within this context, understanding human imprints of the living space through time, and its relationships between spatial patterns and ecological processes - the main research topics in Landscape Ecology - can reveal new paths to the conceptual development of Land-

scape Ecology in Latin America. The Landscape Ecological perspective may also help to define sustainable strategies for biological conservation and socio-economic sustainability in the scenario of climate global changes, which particularly affect the region.

Facing all the peculiarities of Latin American countries and the complexity involved in establishing a single Latin America IALE chapter, up to date, only Argentina and Brazil have formally launched the first IALE chapters within the region (respectively ASADEP-IALE and IALE-BR). In this sense, the 2009 Latin America IALE Conference is a call for regional exchange among all Latin American countries hoping that more will follow this initiative.

The main objective of the conference is to encourage the development and consolidation of Landscape Ecology as a science in Latin America by approaching and integrating researchers from different countries. The establishment and strengthening of interactions among Landscape Ecology researchers, educators, students and practitio-

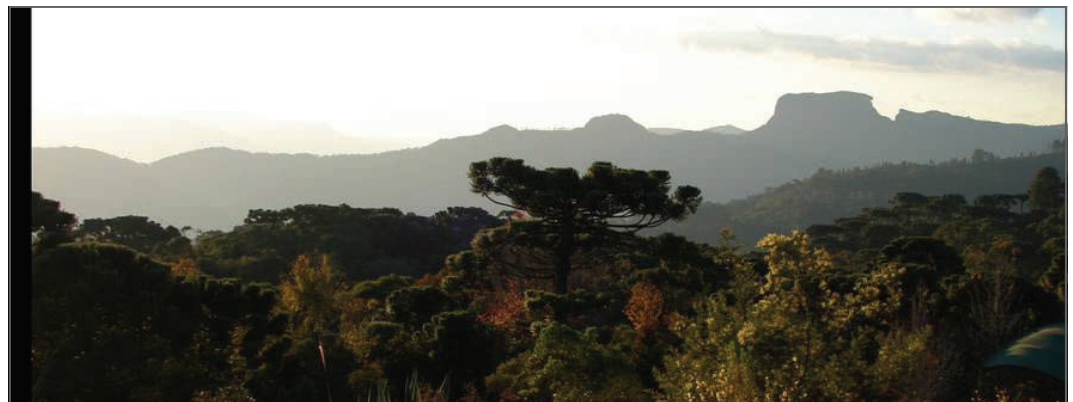
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Conference focus:

Setting research priorities

Developing teaching strategies

Building capacity strategies



Typical landscape at the Mantiqueira mountain range, dominated by “Mix Ombrophylus Atlantic Forest”, characterized by the presence of *Araucaria angustifolia* (the higher tree in the middle of the photograph).



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ners is expected to result in the setting up of networks of experts in the subject with particular interests on related applications and problems within the Latin American context. Such interactions will promote technical and scientific exchange between Northern and Southern researchers, facilitating the creation of new IALE chapters, helping to develop tools to integrate their actions and search for adequate solutions to Latin American territories in order to ensure the conservation of their biological diversity and environmental sustainability.

The core theme of the [2009 Latin American IALE Conference](#) is: "Landscape Ecology in Latin America: Challenges and Perspectives". Exchanges on a variety of subjects are expected and debates on research priorities and development of teaching and building capacity strategies for Landscape Ecology in Latin America will be held as central points of the conference. Conservation issues, such as the impacts of native forest fragmentation and biodiversity loss on ecological processes, connectivity assessment in terrestrial and aquatic environments and changes in the spatio-temporal patterns of ecological diversity will be integrated with discussions of socio-economic and ecological strategies for the restoration of Latin American landscapes. The development of theories and methods for the analysis of changes in land use/land cover driven by human pressures, with particular focus on tropical environments, and new perspectives on landscape studies for Latin American grasslands and savannas will aid to merge novel monitoring and planning techniques based on Landscape Ecology principles. Landscape valuation and the development of strategies for the conservation and management of natural and cultural landscapes

will help to assess several ecological and socio-economic aspects for the sustainability of Latin American landscapes. The valuation of ecosystem services at the landscape level and the effects of climate change on landscape function and structure shall also be a topic of intensive discussion.

This conference is open to researchers, educators, university students, planners and managers who are interested in the development of Landscape Ecology and its application in solving Latin-American environmental problems. People from governmental institutions, related to environmental management (e.g.: from Environmental Ministry or Secretaries), and from non-governmental organizations (NGOs), as well as researchers from companies of the applied sector (e.g. farming, forestry) are also welcome. During the three-day conference (4 - 7 October 2009), 100 to 140 oral communications, arranged in round-tables and symposia, and around 100 posters are expected. Three key note speakers will be invited and a plenary session will be organized to discuss strategies of regional development, research integration and research priorities and applications for Landscape Ecology in Latin America.

Venue

Campos do Jordão, city where the conference will be held, is located 120 miles from the city of São Paulo, about two hours drive from São Paulo/Guarulhos International Airport, and 210 miles from the city of Rio de Janeiro, about 4h30m drive from the Galeão/Rio de Janeiro International Airport. The city, placed at the highlands of the Mantiqueira mountain range at an altitude of 5350 feet, is famous for its weather and is

(Continued on page 14)

Conference is open to researchers, educators, university students, planners and managers interested in the development of Landscape Ecology and its application in solving Latin-American environmental problems.

2009 Latin American IALE Conference

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known as the “[Brazilian Switzerland](#)”. It is regarded as one of the healthiest cities in Brazil due to the mountain climate with cold winters (June to August) and warm summers (December to February), and served in the past as a centre for tuberculosis treatment.

The city is nowadays an important tourist resort, famous for its typical gastronomy (cheese fondue, trout and chocolate), bars and pubs that offer artisanal beer. Also, the area hosts beautiful native forests of *Araucaria angustifolia*, the peculiar Brazilian pine tree, in mountainous landscapes. Field excursions to nearby strategic locations will be organized, allowing participants to have a first contact with the landscapes of the Mantiqueira mountain range. The city is also the place of important cultural events such as the winter music festival and many other eco-tourism activities and outdoors sports. The “Horto Florestal”, a forest reserve created in 1941 and later converted into a State Park, holds one of the largest northern remnants of the “Mix Ombrophylus Atlantic Forest”, characterized by the presence of *Araucaria angustifolia*.

Main deadlines

- 02/28/2009 – Proposals for Symposia or round tables
- 03/31/2009 – Notification of Symposia acceptance
- 04/30/2009 – Abstracts submission
- 06/05/2009 – Notification of abstracts ac-

ceptance

- 06/15/2009 – Discount registration
- 09/25/2009 – End of registration

Organization and Executive Offices

The [conference](#) is promoted by the Brazilian IALE chapter – IALE-BR and LEPAC – Landscape Ecology and Conservation Laboratory of the University of São Paulo – USP, Brazil. For direct inquiries to the organizing committee, please write to: ialela2009@yahoo.com.br

Conference President:

Dr. Jean Paul Metzger, president of the Conference and the Brazilian chapter of the *International Association for Landscape Ecology* (IALE-BR).

Organizing Committee:

Dr. Jean Paul Metzger (University of São Paulo, Brazil)

Dra. Vânia Regina Pivello (University of São Paulo, Brazil)

Dra. Rozely Ferreira dos Santos (University of Campinas, Brazil)

Dra. Mariella Camardeli Uzêda (Embrapa – Seropédica, Brazil)

Dra. Simone R. Freitas (University of São Paulo, Brazil)

Dr. Danilo Boscolo (Bahia Federal University, Brazil)

Dra. Sandra Luque (Cemagref, France; Vice-president of IALE)

Msc. Paula Caycedo (Alexander Von Humboldt Institute, Colombia)

Msc. Leandro Tambose (University of São Paulo, Brazil)

Msc. Giordano Ciocheti (University of São Paulo, Brazil)

Scientific Committee (The list is not definitive):

Dr. Jean Paul Metzger (University of São Paulo, Brazil)

Dra. Vânia Regina Pivello (University of São Paulo, Brazil)

Dra. Rozely Ferreira dos Santos (University of Campinas, Brazil)

Dra. Sandra Luque (Cemagref, France; Vice-president of IALE)

Dra. Ana Luiza Coelho Netto (Federal University of Rio de Janeiro, Brazil)

Dr. K. Bruce Jones (USGS, USA; President of IALE)

Dr. Daniel Somma (Parques Nacionales Argentina/ASADEP - IALE Argentine Board)

Dr. Cristian Echeverria (University of Concepcion, Chile)

Dr. Rob H.G. Jongman (Alterra Wageningen UR, The Netherlands)

Dr. Silvia Matteucci (GEPAMA, UBA Buenos Aires, Vice-president ASADEP-IALE, Argentina)

Abstracts Due
March 31st, 2009

Early Registration ends
May 31st

Overview of Campos do Jordão, city where the conference will be held.



International News

The governing body of IALE, referred to here as [interIALE](#) to distinguish this governing body from our US-IALE Regional Chapter, has been very active over the past 12 months. The most recent Bulletin is full of important news and announcement that should be of interest to all members.

Please take the time to carefully read [Volume 27.1 – the January 2009 edition](#)

The highlights of this bulletin include:

- The upcoming election of two Vice Presidents. Five candidates have been nominated and their biographies can be found in the bulletin. The U.S. Nomination is Tom Edwards. I encourage all members to read the qualifications of all candidates and to vote when you receive an electronic ballot.
- There will be a second item on the ballot. Several changes to the statutes have been proposed. These changes are all relatively minor, but are important to insure smooth transitions within the Executive Committee with vacancies unexpectedly occur. Please review the proposed changes in the bulletin and be prepared to either “approve” or “reject” on the electronic ballot.
- A web pages for [interIALE](#) have been completely redone, adding much more content and appeal. These pages, which will be activated at the end of January or early February.
- The bulletin and the web pages offer up-to-date announcements of Regional Chapter meetings. Of particular note is the European Chapter meeting in Salzburg, Austria, July 12-16 and the Latin American Chapter meeting in Campos do Jordao, Brazil, 4-7 October, 2009. Both meetings will be well-planned and in excellent venues. I would encourage all members to consider attending one or more of these meetings. I'm personally looking forward to the meeting in Brazil!

[Bob Gardner](#), President of the Council of IALE

Site Selection Committee

The site selection committee helps identify locations and hosts for the US-IALE annual meeting. In addition, the committee works to facilitate and support communication between meeting planners, executive committee, and the broader society. With planning for

next years anniversary meeting in Athens well underway, the committee is currently considering sites in the Pacific Northwest for 2011, New England for 2012, and beyond, including potential sites that encourage broader participation by colleagues in Canada and

Mexico. Any and all suggestions are welcome!!!

[Matt Baker](#)
**Site Selection
 Committee Chair**



Athens Georgia, location for the 25th Anniversary Annual Meeting in 2010

Top 50 Most Cited Papers Published in Landscape Ecology between 2002 and 2006

(Data from ISI Web of Knowledge, accessed on Jan. 2nd, 2009; Prepared by Fei Yuan)

	Author(s)	Publ year	Title	Times cited/ year*	Total Times cited
1	J. G. Wu	2004	Effects of changing scale on landscape pattern analysis: scaling relations	23.0	92
2	H. B. Li; J. G. Wu	2004	Use and misuse of landscape indices	22.0	88
3	J. G. Wu; R. Hobbs	2002	Key issues and research priorities in landscape ecology: An idiosyncratic synthesis	19.0	114
4	V. L. Sork; P. E. Smouse	2006	Genetic analysis of landscape connectivity in tree populations	12.5	25
5	J. G. Wu; W. J. Shen; W. Z. Sun; et al.	2002	Empirical patterns of the effects of changing scale on landscape metrics	10.5	63
6	J. G. Wu	2006	Landscape ecology, cross-disciplinarity, and sustainability science	10.5	21
7	M. Burgi; A. M. Hersperger; N. Schneeberger	2004	Driving forces of landscape change - current and new directions	10.0	40
8	M. Luck; J. G. Wu	2002	A gradient analysis of urban landscape pattern: a case study from the Phoenix metropolitan region, Arizona, USA	9.7	58
9	S. A. Cushman; K. McGarigal	2002	Hierarchical, multi-scale decomposition of species-environment relationships	9.5	57
10	R. F. Graf; K. Bollmann; W. Suter; et al.	2005	The importance of spatial scale in habitat models: capercaillie in the Swiss Alps	8.7	26
11	L. Pascual-Hortal; S. Saura	2006	Comparison and development of new graph-based landscape connectivity indices: towards the prioritization of habitat patches and corridors for conservation	8.5	17
12	J. P. Chardon; F. Adriaensen; E. Matthysen	2003	Incorporating landscape elements into a connectivity measure: a case study for the Speckled wood butterfly (<i>Pararge aegeria</i> L.)	8.4	42
13	E. Hietel; R. Waldhardt; A. Otte	2004	Analysing land-cover changes in relation to environmental variables in Hesse, Germany	8.3	33
14	P. Opdam; J. Verboom; R. Pouwels	2003	Landscape cohesion: an index for the conservation potential of landscapes for biodiversity	8.0	40
15	S. A. O. Cousins; O. Eriksson	2002	The influence of management history and habitat on plant species richness in a rural hemiboreal landscape, Sweden	7.8	47
16	D. J. Bender; L. Tischendorf; L. Fahrig	2003	Using patch isolation metrics to predict animal movement in binary landscapes	7.6	38
17	J. Niemela; D. J. Kotze; S. Venn; et al.	2002	Carabid beetle assemblages (Coleoptera, Carabidae) across urban-rural gradients: an international comparison	7.5	45
18	D. R. Bowne; M. A. Bowers	2004	Interpatch movements in spatially structured populations: a literature review	7.5	30
19	R. Holderegger; H. H. Wagner	2006	A brief guide to landscape genetics	7.5	15
20	R. G. Latta	2006	Integrating patterns across multiple genetic markers to infer spatial processes	7.5	15
21	J. L. Frair; E. H. Merrill; D. R. Visscher; et al.	2005	Scales of movement by elk (<i>Cervus elaphus</i>) in response to heterogeneity in forage resources and predation risk	7.3	22

Top 50 Most Cited Papers Published in Landscape Ecology

22	S. Saura	2004	Effects of remote sensor spatial resolution and data aggregation on selected fragmentation indices	7.3	29
23	D. Moser; H. G. Zechmeister; C. Plutzer; et al.	2002	Landscape patch shape complexity as an effective measure for plant species richness in rural landscapes	6.8	41
24	G. Verbeylen; L. De Bruyn; F. Adriaensen; et al.	2003	Does matrix resistance influence Red squirrel (<i>Sciurus vulgaris</i> L. 1758) distribution in an urban landscape?	6.8	34
25	M. Belisle; A. Desrochers	2002	Gap-crossing decisions by forest birds: an empirical basis for parameterizing spatially-explicit, individual-based models	6.5	39
26	G. J. Cary; R. E. Keane; R. H. Gardner; S. Lavorel; et al.	2006	Comparison of the sensitivity of landscape-fire-succession models to variation in terrain, fuel pattern, climate and weather	6.5	13
27	C. D. Snyder; J. A. Young; R. Vilella; et al.	2003	Influences of upland and riparian land use patterns on stream biotic integrity	6.4	32
28	M. Luoto; T. Toivonen; R. K. Heikkinen	2002	Prediction of total and rare plant species richness in agricultural landscapes from satellite images and topographic data	6.2	37
29	H. Nagendra; J. Southworth; C. Tucker	2003	Accessibility as a determinant of landscape transformation in western Honduras: linking pattern and process	6.0	30
30	K. C. Seto; M. Fragkias	2005	Quantifying spatiotemporal patterns of urban land-use change in four cities of China with time series landscape metrics	6.0	18
31	H. M. Neville; J. B. Dunham; M. M. Peacock	2006	Landscape attributes and life history variability shape genetic structure of trout populations in a stream network	6.0	12
32	W. D. Gu; R. Heikkilä; I. Hanski	2002	Estimating the consequences of habitat fragmentation on extinction risk in dynamic landscapes	5.8	35
33	M. G. Rollins; P. Morgan; T. Swetnam	2002	Landscape-scale controls over 20(th) century fire occurrence in two large Rocky Mountain (USA) wilderness areas	5.8	35
34	V. M. Stevens; E. Polus; R. A. Wesselingh; et al.	2004	Quantifying functional connectivity: experimental evidence for patch-specific resistance in the Natterjack toad (<i>Bufo calamita</i>)	5.8	23
35	S. A. O. Cousins; S. Lavorel; I. Davies	2003	Modelling the effects of landscape pattern and grazing regimes on the persistence of plant species with high conservation value in grasslands in south-eastern Sweden	5.6	28
36	L. Sandin; R. K. Johnson	2004	Local, landscape and regional factors structuring benthic macroinvertebrate assemblages in Swedish streams	5.5	22
37	J. R. Pannell; M. E. Dorken	2006	Colonisation as a common denominator in plant metapopulations and range expansions: effects on genetic diversity and sexual systems	5.5	11
38	J. K. Agee	2003	Historical range of variability in eastern Cascades forests, Washington, USA	5.4	27
39	L. Tischendorf; D. J. Bender; L. Fahrig	2003	Evaluation of patch isolation metrics in mosaic landscapes for specialist vs. generalist dispersers	5.4	27
40	K. Benjamin; G. Domon; A. Bouchard	2005	Vegetation composition and succession of abandoned farmland: effects of ecological, historical and spatial factors	5.3	16
41	J. M. Morales; D. Fortin; J. L. Frair; et al.	2005	Adaptive models for large herbivore movements in heterogeneous landscapes	5.3	16

Continued

Treasurer's Report

I am pleased to report that, despite the grim U.S. economy, our net worth has increased from \$95,038 at the end of 2007 to approximately \$122,000 at the end of 2008. The income came from last year's annual symposium in Madison (WI), book auction at the symposium for the Foreign Scholar Travel Award fund, donations, and membership fees. We generally had expenses similar to 2007 for 2008, with a few increases in particular services. Memberships continue to cover operating expenses. Additional details about our income and expenses for 2008 will be provided at the 2009 meeting in Snowbird, UT.

Lisa Schulte
Treasurer

Benefits of Membership

If you are reading this, you are most likely a member of US-IALE. We (the Executive Council) would like to encourage you to promote the organization and its resources to your colleagues, friends and students. It is easy: [Membership](#)

We have made great strides in developing the US-IALE web page, the membership interface, revamped newsletter and the current effort to incorporate teaching materials on the web site. Our meetings continue to expand and offer state-of-the-science access for meeting participants. We continue to enhance student resources. This is a great organization, consider getting involved. Please contact one of the members of the Executive Committee for more information.

Top 50 Most Cited Papers Published in Landscape Ecology

41	J. M. Morales; D. Fortin; J. L. Frair; et al.	2005	Adaptive models for large herbivore movements in heterogeneous landscapes	5.3	16
42	S. Said; S. Servanty	2005	The influence of landscape structure on female roe deer home-range size	5.3	16
43	R. L. Schooley; J. A. Wiens	2004	Movements of cactus bugs: patch transfers, matrix resistance, and edge permeability	5.3	21
44	J. F. Arnaud	2003	Metapopulation genetic structure and migration pathways in the land snail <i>Helix aspersa</i> : influence of landscape heterogeneity	5.0	25
45	B. J. Goodwin	2003	Is landscape connectivity a dependent or independent variable?	5.0	25
46	P. Jeanneret; B. Schupbach; L. Pfiffner; et al.	2003	Arthropod reaction to landscape and habitat features in agricultural landscapes	5.0	25
47	T. Magura; B. Tothmeresz; T. Molnar	2004	Changes in carabid beetle assemblages along an urbanisation gradient in the city of Debrecen, Hungary	5.0	20
48	M. C. Neel; K. McGarigal; S. A. Cushman	2004	Behavior of class-level landscape metrics across gradients of class aggregation and area	5.0	20
49	R. Holderegger; U. Kamm; F. Gugerli	2006	Adaptive vs. neutral genetic diversity: implications for landscape genetics	5.0	10
50	Y. Zharikov; D. B. Lank; F. Huettmann; et al.	2006	Habitat selection and breeding success in a forest-nesting Alcid, the marbled murrelet, in two landscapes with different degrees of forest fragmentation	5.0	10

Current US-IALE Officers

Jianguo (Jack) Liu*Chair, 2008-2010*

Center for Systems Integration and Sustainability
Department of Fisheries and Wildlife
115 Manly Miles Bldg.
Michigan State University
East Lansing, MI 48823-5243
(517) 432-5025
jliu@panda.msu.edu

Colleen Hatfield*Secretary, 2007-2009*

Biological Sciences, Holt Hall
California State University
Chico, CA 95929 USA
(530) 898-4235
chatfield@csuchico.edu

Lisa A. Schulte*Treasurer, 2008-10*

Natural Resource Ecology and Management
339 Science II
Ames, IA 50011
(515) 294-7339
lschulte@iastate.edu

Cami Martin*Membership Secretary*

Appalachian Laboratory
301 Braddock Rd.
Frostburg MD 21532
memsec@al.umces.edu

Martin Simard*Student Representative, 2007-2009*

University of Wisconsin
430 Lincoln Drive
Madison, WI 53706, USA
(608) 265-8001
simard@wisc.edu

Namrata Shrestha*Student Representative, 2008-2010*

University of Toronto at Mississauga
Department of Geography,
South Building 1156A
3359 Mississauga Rd.
Mississauga, Ontario L5L 1C6, Canada
(905) 828-5273
namrata.shrestha@utoronto.ca

Councillors-at-Large:**Janet Silbernagel***Councillor-at-Large, 2007-09*

University of Wisconsin-Madison
1450 Linden Dr.
Madison, WI 53706
(608) 265-8093
jmsilber@facstaff.wisc.edu

Sarah Gergel*Councillor-at-Large, 2008-2010*

Department of Forest Sciences and
Centre for Applied Conservation Research
3024 - 2424 Main Mall
University of British Columbia
Vancouver, BC V6T 1Z4, Canada
(604) 827-5163
sarah.gergel@ubc.ca

Matt Baker*Councillor-at-Large, 2008-2010*

University of Maryland, Baltimore County
mbaker@umbc.edu

Have a question for US-IALE? — contact any member of the Executive Committee

US-IALE's purpose is to

- foster landscape ecology in the United States
- provide a link among practitioners in landscape ecology within the United States as well as the international community
- promote interdisciplinary research and communication among scientists, planners, and other professionals concerned with landscape ecology

Who Would Benefit from US-LALE Membership?

<i>Landscape Architects</i>	<i>Ecologists</i>
<i>Land and Nature Managers</i>	<i>Conservation Biologists</i>
<i>Land Use Planners</i>	<i>Biogeographers</i>
<i>GIS Specialists</i>	<i>Spatial Statisticians</i>
<i>Wildlife Biologists</i>	<i>Ecosystem Modelers</i>



US-IALE on the Web



IALE on the Web