

**The 12th Annual
Ecological
Integration
Symposium**



Disturbance, Recovery & Ecological Implications

Interdisciplinary Life Sciences Building
Texas A&M University

March 24-26, 2011

All events are FREE!



The Ecological Integration Symposium

This is the 12th year of Texas A&M University's nationally-recognized Ecological Integration Symposium. It features cutting-edge scientists who are at the forefront of ecological research, attracting faculty, students, NGOs, government agencies and the public.

The goal of this year's theme is to investigate natural and anthropogenic disturbances and recoveries over multiples scales of time and space. We hope to incorporate various perspectives from scientists and policy analysts through discussion and integration. The theme of disturbance and recovery is timely, important to all species, and requires interdisciplinary ecological thinking.

From its inception in the Department of Wildlife and Fisheries Sciences twelve years ago, EIS has remained student-organized and student-driven, featuring student presentations and posters across disciplines. This year EIS features other forms of communication, including film, photography, and sculpture, in an effort to reach a broader audience and another part of the spectrum of emotion and intellect.

Schedule

At-a-glance

Thursday

- 11-3 Career Fair (Animal Industries Building)
- 5:30 Sizzle: A Global Warming Comedy Filmscreening

Friday

- 9 Dr. Camille Parmesan
- 10:15 Dr. Randy Olson
- 11:30 Dr. Douglas Erwin
- 1:30 Discussion on Collections
- 2:15 Jorrit Poelen, Randy Jewart
- 9-3 Collaborative Art
Wildlife Art Competition
Evidence of Use

Saturday

- 9 Dr. Judith Layzer
- 10 Dr. Andre Clewell
- 11:20 Dr. Philip Hedrick
- 12:20 Panel Discussion
- 1:00 Student Presentation and Poster Sessions
- 5:00 Awards



Thursday

Career Fair Filmscreening

Society of Ecological Restoration Student Guild hosts

Ecological Restoration Career Fair

11am-3pm

Animal Industries Building

Featuring

Lee Sherrod

Horizon Environmental Services

Greg Crouch

Crouch Environmental

James Thomas

HDR Inc.

Courtney Greer

Advanced Ecology Ltd.

Stephanie Burgess

National Park Service

SIZZLE: a Global Warming Comedy

5:30pm

Interdisciplinary Life Sciences Building Auditorium

Scientist-turned-filmmaker Dr. Randy Olson of Prairie Starfish Productions will introduce his 2008 award-winning film. Sizzle is a blend of mockumentary, documentary and reality, delving into the confusion of global warming. Q&A following film.

Friday

Keynote Speakers **Art** **Collections**

Plenary: Keynote Speakers

9:00am-12:30pm

Interdisciplinary Life Sciences Building Auditorium

9:00 Introduction of EIS by Dr. Thomas Lacher
Department Head and Professor of Wildlife and Fisheries Sciences

Dr. Camille Parmesan

Professor of Integrative Biology
University of Texas—Austin

*Conservation under a Changing Climate: Novel Times
Call for Creative Approaches*

10:00-10:15 Coffee Break

10:15 **Dr. Randy Olson**

Prairie Starfish Productions, Shifting Baselines
A Superhuman Tale of Science Communication

11:15-11:30 Coffee Break

11:30 **Dr. Douglas Erwin**

Curator of Paleozoic Invertebrates
Smithsonian Museum of Natural History
Crisis, Collapse and Continuity: Lessons from Deep Time

12:30-1:30 Lunch

1:30 **The Role of Collections in “Disturbance and Recovery”**

A discussion panel among leaders of and contributors
to wildlife collections, featuring:

- Dr. Deborah Cowman
Executive Director, Brazos Valley Natural History Museum
- Dr. Douglas Erwin
- Dr. Jessica Light
Assistant Professor of Wildlife & Fisheries Sciences & TCWC
- Dr. James B. Woolley
Professor of Entomology

Friday

Keynote Speakers Art Collections

2:15 Jorrit Poelen, "Evidence of Use"

Randy Jewart, Austin Green Art

3:00 The Wildlife Society Art Competition Awards

Awards in the categories of:

- Landscape photographs
- Flora photographs
- Fauna photographs
- People and wildlife photographs
- Other media
- People's choice (audience voting)

Throughout the day: Interdisciplinary Life Sciences Building

The Wildlife Society Art Competition

Lobby

Student Chapter of The Wildlife Society hosts and judges student and faculty art. Exhibit opens at 9am. Judging will occur from 1-2pm. Awards at 3:00.

Collaborative Art Project

Austin Green Art enables full audience participation all day at the back of the building. Please help us all build something beautiful! Contribute your recyclable material and be part of a great recovery event.

Evidence of Use

Digital Multimedia Installation

Digital multimedia artist Jorrit Poelen discusses his process in complicating this interaction of images: multiple scientific and public sources of data reaching out of disciplines toward broader audiences.

Saturday

Keynote Speakers Student Research

Plenary: Keynote Speakers

9:00am-1:00pm

Interdisciplinary Life Sciences Building Auditorium

9:00 **Dr. Judith Layzer**

Professor of Environmental Policy
Massachusetts Institute of Technology
The Politics of Ecosystem-based Management

10:00 **Dr. Andre Clewell**

Tall Timbers Research Station & Land Conservancy
Commodities, Annuities, and Ecological Restoration

11:00-11:20 Coffee Break

11:20 **Dr. Philip Hedrick**

Ullman Professor of Biology
Arizona State University
*Conservation Genetics:
How It Can Contribute to Recovery*

12:20 **Discussion among Keynote Speakers**

1:00-2:00 Pizza Lunch provided

Student Presentations & Posters

Interdisciplinary Panels

1:00 Posters

2:00 Session One

3:10 Session Two

4:00 Session Three

5:00 Culmination of Collaborative Art & Awards

Saturday

Student Research

Session One

✓ SRW/EIS Dual Competition A

Room 1105

Carmen Montana, Kirk O. Winemiller. Ecomorphological and habitat use of centrarchid fishes in two temperate floodplain rivers

Mike Treglia. Unintended consequences of anthropogenic development on water resources and biodiversity in an arid landscape

Carena van Riper. Connecting place meanings to environmental governance within the Great Barrier Reef Marine Park, Australia

Jialei Xie. Effect of the *Drosophila* endosymbiont Spiroplasma on parasitoid wasp development and on the reproductive fitness of wasp-attacked fly survivors

SRW/EIS Dual Competition B

Room 3143

Ilsa Kantola. Changes in soil phosphorus fractions following woody plant invasion of grassland

Paul Lenhart. Nutrient niche hypothesis: investigating correlations between plant quality and generalist herbivore communities

Katherine Roach. Effects of hydrology, light penetrance, and nutrient concentrations on production sources in floodplain rivers: 6 case studies

Mengmeng Sun. Stage-structured Model of Midcontinent Mallards

Saturday

Student Research

Session Two

SRW/EIS Dual Competition C

Room 1105

Emma Gomez. Variation in Bat Activity Patterns at Cattle Ponds in La Michilia Biosphere Reserve, Durango, Mexico

Adam Landon. Public perceptions of fuel load management techniques within the southern Californian wildland-urban interface

Marion LeGall. Plant defense-nutrient interactions: metabolic effects on an herbivorous insect

SRW/EIS Dual Competition D

Room 3143

Amanda Bentley, Martha Sofia Agudelo, David Toledo. The Shifting of ecological restoration benchmarks and their social impacts: Digging deeper into Pleistocene re-wilding.

Justin Fiene. Non-chemical management strategies for an omnivorous pest of cotton

Victor Mason. Efficient Cross-Species Capture Hybridization and Next-Generation DNA Sequencing of Mitochondrial Genomes from Non-Invasively Sampled Museum Specimens

✓ Ecological Integration Competition E

Room 3147

Adriana Mendez-Jimenez. Fish, Sex and Currents: a tale of marine biogeography and mass reproduction

Shuang Liu. Genetic differentiation of *Portunus trituberculatus*, the world's largest crab fishery in the world, among its three main fishing areas

Ben Van Allen. Natal habitat alters population dynamics in novel environments

Saturday

Student Research

Session Three

SRW/EIS Dual Competition F

Room 1105

Erik Oberg. Characterization of the Thermal Tolerances of Forest Ants of New England

Min-cheng Tu. Towards optimal combinations of cost-sharing rangeland management practices: a modelling approach

Angela Witmer. Recovery of sandy beach macrofauna after Hurricane Ike

✓ SRW/EIS Dual Competition G

Room 3147

Christopher Cheleuitte-Nieves. Seasonal and Diurnal Patterns of Spatial Spread and the Influence of Resources on a Free-Ranging Cattle Herd in a Semi-Arid Rangeland in South Texas, USA

Chouly Ou, Kirk O. Winemiller. Production sources and Trophic positions of fish assemblages in the Mekong River and its tributaries

Jee In Yoon. A qualitative research approach to assess place meanings among managers of Aransas National Wildlife Refuge Complex

✓ Ecological Integration Competition H

Room 3143

Edwin Bellota Villafuerte, Tom Jondiko, Julio Bernal. Resistance to feeding and oviposition by corn leafhopper along maize's evolutionary and domestication gradients

S. Bibiana Correa, Kirk O. Winemiller, Maritza Correa. Trophic resource partitioning among Amazonian floodplain serrasalmid fishes

Crystal Watkins. Effects of domestic wastewater effluents on *Gambusia affinis* in the Bayou Systems of Harris County

Student Posters

- Julie Foote.** Soil carbon storage and dynamics in the western Gulf Coastal Plain as impacted by forest management
- Jian Gong.** Flow-induced Development of Unicellular Cyanobacterial Mats
- Natanya Hayden et al.** The effect of flushing with deep lake water on a *Prymnesium parvum* bloom: results from in-situ mesocosm experiments
- Charlotte Huskey.** "Birds Don't Pay Taxes": Environmental Discourse and History of the Balcones Canyonlands Conservation Plan
- Craig Hutton.** Governance in three colors: Forest conservation in Argentina's Salta province.
- ✓ **Andrew Jackson.** Food Web Structure in Floodplain Habitats of the Oueme River, West Africa
- Eun Jung Lee.** Phylogeography of supralittoral intertidal Tylos isopods in the Pacific region between central Mexico and southern California
- Michael J. Liles, Leigh Bernacchi, Tarla Rai Peterson.** Banning Sea Turtle egg consumption in El Salvador: The role of Hatcheries in conflict resolution
- Max Lukenbach.** Large Scale Rainfall Simulation in a Mesquite Rangeland
- Humberto Martinez.** Endosymbionts in *Anastrepha* flies (Diptera: Tephritidae) from south Mexico
- Michael Neisch et al.** Effects of Cyanobacteria Exudates on *Prymnesium parvum*
- Sarah Nyikos.** Meander migration and tree establishment on the Trinity River, southeast Texas
- Rachel Rosenstein, Thomas W. Boutton, Mark G. Tjoelker, Astrid Volder, David D. Briske.** Root dynamics in response to elevated temperatures and altered rainfall regimes in oak savanna: A global change experiment
- Chris Schalk, Carmen Montana.** Community structure of ponds along environmental gradients in the Bolivian Gran Chaco
- Kerri Smith.** Observer Networks: Orca (*Orcinus orca*) in the Galapagos Islands
- Nicole Smolensky.** Population Ecology and Conservation of the Dwarf Crocodile (*Osteolaemus tetraspis*) in Cameroon
- Can Zhou.** Population characteristics of *Coreius guichenoti* in the upper reaches of Yangtze River

Invited Speaker Biographies

Dr. Andre Clewell

Dr. Clewell is a founder and former President of the Society for Ecological Restoration (SER). Clewell has lectured extensively in India where he helped establish a master's program in ecological restoration. Currently, he is a Research Associate at the Tall Timbers Research Station near Tallahassee, Florida, where he conducts research in fire ecology and ecosystem management. This builds on his previous research of vegetation and ecological communities of Florida and the Gulf Coastal Plain. For 22 years he owned the firm, A. F. Clewell, Inc., which restored degraded ecosystems for The Nature Conservancy and installed forested wetlands on reclaimed mine land.

Dr. Douglas Erwin

Dr. Erwin focuses on the mass extinction events, especially the P-T (Permo-Triassic) boundary, dated back to 252 million years ago, when 90% of all life on Earth became extinct. He brings a global perspective to extinction and recovery thereafter on a geologic time scale, having scoured ancient records of life from the rocks of South China. His current research interests include understanding the role of developmental invention in generating novel morphologies as well as how new niches are made to facilitate these new inventions. Dr. Erwin is also interested in the recovery of organisms following mass extinctions. Most of his work focuses on the gastropod recovery during the Early Triassic.

Dr. Philip Hedrick

Dr. Hedrick has worked extensively on the conservation genetics of Florida panthers, Mexican wolves, winter run Chinook salmon, desert bighorn sheep and Gila topminnows. When Florida panther were showing symptoms of genetic load like kinked tails, undescended testicles, low sperm quality due to small population sizes, the genetic rescue efforts aided by influx of cats from Texas stabilized their population and put them on the road to genetic recovery. Dr. Hedrick is credited with seminal work in this respect. With Richard Frederickson, he recently developed a set of guidelines for genetic rescue of natural populations that are at the risk of population bottleneck and its severe effects.

Invited Speaker Biographies

Dr. Judith Layzer

Dr. Layzer is a political scientist whose research and teaching focus on the roles of science, values, and storytelling in environmental politics, as well as on the effectiveness of different approaches to environmental planning and management. A current research project investigates how conservative activists have developed a coherent storyline aimed at undermining environmentalism and how conservative ideas have influenced U.S. environmental politics. In *Natural Experiments: Ecosystem Management and the Environment* (MIT Press, 2008), Layzer aims to explain whether and how ecosystem-based management results in more environmentally beneficial policies and practices than the conventional regulatory approach.

Dr. Randy Olson

Dr. Olson defines himself as a “scientist-turned-filmmaker.” His science career stretched from his graduate work to a tenured professor at the University of New Hampshire. But in the early 1990’s his interests shifted from telling stories OF science (his original research on coral reef ecology—specifically studying the reproductive patterns of corals, starfish, and “little blobs” called sea squirts) to telling stories ABOUT science. Through the medium of film, he began relaying the conversations that needed to be heard. At the same time he developed the Shifting Baselines concept (and powerful communication tool) with other coral reef ecologists, and has continued that project in new media and commercial venues.

Dr. Camille Parmesan

Parmesan's early research focused on multiple aspects of population biology, including the ecology, evolution and behaviors of insect-plant interactions. For the past several years, the focus of her work has been on current impacts of climate change in the 20th century on wildlife. Her work on butterfly range shifts has been highlighted in many scientific and popular press reports. The intensification of global warming as an international issue led her into the interface of policy and science. As a lead author, she was involved in multiple aspects of the Third Assessment Report of the IPCC (Intergovernmental Panel on Climate Change, United Nations).

Collections Speakers Biographies

Dr. Deborah Cowman

Dr. Cowman has a broad background in scientific research focusing on environmental science & policy, ecology, and natural history. She has worked with the USGS and Texas A&M University, has leadership training from NSF and the Smithsonian Institution as well as team building and management experience from the Special Collections Department at Stanford University. Dr. Cowman has a unique background spanning scientific research, science education, and environmental interpretation. This experience, coupled with her current role as the Museum Director at the Brazos Natural History Museum, make her a knowledgeable addition to this year's scientific panel.

Dr. Jessica Light

Dr. Light focuses broadly on evolutionary biology, but is especially interested in studying systematic, population genetics, and coevolutionary associations between distantly related organisms, particularly mammals and their parasites. Many parasites have complex ecological interactions with their hosts that persist over long evolutionary timescales and by studying these comparisons, Dr. Light's research facilitates greater understanding of how taxa have been associated through time. Dr. Light continues to improve other's capacity to conduct research through her work with Texas Cooperative Wildlife Collections as faculty curator of mammals.

Dr. James Woolley

Educated in Entomology at University of California-Riverside, Dr. Jim Woolley has led many A&M students to follow in his footsteps, from field courses in tropical biology in Domenica, West Indies to courses in systematics and phylogenetics. His research contributions have centered on systematics of parasitoid wasps, emphasizing descriptive taxonomy and revisionary study; analysis of phylogenetic relationships and classification of genera, tribes and subfamilies, comparative morphology; and biosystematics of selected complexes of species of particular importance to biological control. His work with entomological collections will inform this panel discussion on collections.

Artist Biographies

Randy Jewart

Relying on his experience as a sculptor, Jewart founded Austin Green Art five years ago, blending art and activism, balancing culture and environment, and collaborating with communities. Austin Green Art (AGA) is a nonprofit organization dedicated to raising awareness about important environmental issues via hands-on, creative, community-based programming & events. AGA utilizes collaboration and the transformative power of the creative arts to engage participants and provides first-hand knowledge about issues relating to conservation, sustainability and the environment. AGA has partnered with a host of local organizations to create more than 40 programs that have engaged thousands of community stakeholders and hundreds of area volunteers.

Jorrit Poelen

Poelen is the visual half of the Dutch VJ-DJ duo [moos]. Jorrit uses a custom-built, highly responsive, realtime video projection instrument, "pooks", to create distorted compositions out of found/created digital objects. Aside from [moos] performances in the Netherlands (Melkweg 2009, electro.nl 2008, Festival a/d Werf 2006, Tivoli de Helling 2005, Doornroosje 2003), he collaborated with Chicago-based experimental noise groups such as unseen|unknown (Enemy 2007), Flux Bouquet (Schubas 2007, Green Lantern Gallery 2007, Enemy 2008), Estesombelo (South Union Arts 2007) and United Steelworkers Union (AV-aerie 2008). Jorrit currently lives in Oakland, California.

Tee-Shirts

This year Tee-Shirts will be available to commemorate the symposium in limited numbers. They are \$10 each and come in Adult S, M, L, XL. Get them early.

Thank you!

Thank you to the following generous supporters of EIS,
without whom this event would not be possible.

Texas A&M Programs

Applied Biodiversity Sciences (ABS)
Boone & Crockett Wildlife and Conservation Policy Lab
Ecology and Evolutionary Biology (EEB)
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The Departments of

English
Entomology
Geography
Ecosystem Science and Management
Wildlife and Fisheries Sciences

Student Groups

Society for Ecological Restoration Student Guild
especially Gabriela Sosa
The Wildlife Society—Texas A&M Student Chapter

Community Groups

Brazos Valley Natural History Museum
Brazos Valley Texas Master Naturalists

Fiesta Host

Leslie Ruyle, ABS Coordinator

Check the website or join the listserv to stay updated on EIS 2012!

theEIS.tamu.edu

<http://groups.google.com/group/eislist>

Thank you for attending EIS 2011!

Sincerely, the graduate student EIS Organizers

Leigh Bernacchi, Vikram Chhatre, Kevin Deitz, Craig Hutton,
Zach Hurst, Laura Ann McLoud & Lauren Menasco-Davis