

The Xerces Society  
For Invertebrate Conservation

**ANNUAL REPORT**  
**2010**



Portland, OR

Sacramento, CA | Princeton, MN | Kalamazoo, MI | Greensboro, NC | Cape May, NJ





**THE XERCES SOCIETY**  
FOR INVERTEBRATE CONSERVATION

The Xerces Society for Invertebrate Conservation is a nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat. Established in 1971, the Society is at the forefront of invertebrate protection worldwide, harnessing the knowledge of scientists and the enthusiasm of citizens to implement conservation programs. The Society uses advocacy, education, and applied research to promote invertebrate conservation.

**The Xerces Society for Invertebrate Conservation**  
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Regional offices: Sacramento, CA; Princeton, MN, Kalamazoo, MI; Greensboro, NC; and Cape May, NJ.

Overwintering cluster of monarch butterflies in California.



# LETTER FROM THE EXECUTIVE DIRECTOR

The year 2010 was a good one for the Xerces Society. Our staff continued to expand, increasing our capacity to take on new projects, as well as enabling us to reach people across the US. We have had success with our mission: vital habitat for at-risk species is more secure; freshwater mussels are better understood and their needs addressed by watershed managers; a new partnership to conserve dragonflies was launched; and information materials that help land managers and farmers provide habitat for invertebrate species were developed and distributed.

Endangered species protection has been a core value of the Society from its inception. Butterflies remain integral to our efforts, but our endangered species program now also works to protect bumble bee diversity across North America and abroad, and a wide range of invertebrates negatively impacted by climate change.

For over a decade, the Xerces Society has partnered with farmers, government agencies, land managers, and private citizens to protect pollinators and expand the areas of pollinator habitat in all landscapes. In 2010, our outreach activities directly engaged more than three thousand people across the United States and indirectly engaged many thousands more through media, the web, and new publications, and habitat has been improved on thousands of acres of agricultural lands for the benefit of pollinators.

The roots of our aquatic program lie in biomonitoring for streams and rivers. Recently, we have worked to develop an invertebrate-based assessment tool for wetlands and have done considerable work to promote awareness and understanding of freshwater mussels of western North America. Late in 2010, we witnessed the launch of the Migratory Dragonfly Partnership, which brings together scientists, organizations, and agencies from Canada, USA, and Mexico to study and protect dragonflies.

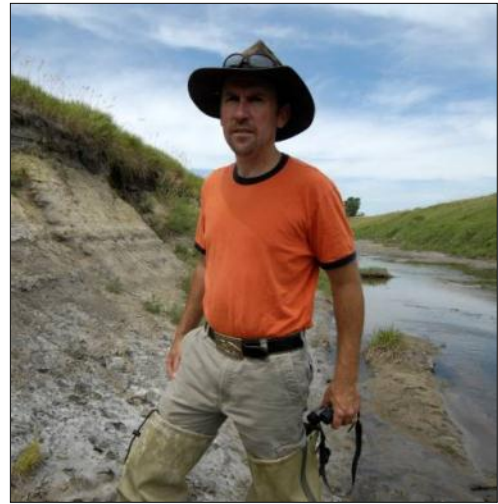
This report features highlights of our work from the past year.

As we move into 2011, our 40<sup>th</sup> anniversary year, the Society continues to be a voice for the little creatures that run the world.

Sincerely,



Scott Hoffman Black  
Executive Director



Photograph © Joel Sartore

# POLLINATOR CONSERVATION

## Pollinator Events Presented Across the Country

This was the first year of a three-year initiative to provide training to farmers and US Department of Agriculture conservation staff and partners on the ways to improve working farms and ranches for pollinators. Xerces staff presented sixteen day-long pollinator short courses during the year, reaching more than six hundred people in eleven states that span the country from Oregon to New Hampshire. Participants learned about native bee biology, the economic impact of insect pollination, trends in bee declines, conserving and developing pollinator habitat, long-term habitat management, mitigating pesticide effects, and using NRCS programs and practices to support crop pollinator populations, and left with a comprehensive packet of information materials.

In addition to the short courses, program staff presented at a variety of other events, ranging from national meetings to local farm walks. Over 2,800 people attended these events.



Photograph © Matthew Shepherd

Farmer workshop in Oregon.

## Pollinator Conservation Educational Materials

In early 2010, we launched our Pollinator Conservation Resource Center, a web-based resource that provides “one click” access to a wealth of information on how to implement pollinator conservation projects. This comprehensive source of pollinator information receives more than 1,000 visitors a month.



A new conservation toolkit for organic growers, *Organic Farming for Bees: Conservation of Native Crop Pollinators in Organic Farming Systems*, was unveiled at the EcoFarm Conference in California in January 2010 and used again at the MOSES Organic Farming Conference in Wisconsin in February 2010. The toolkit includes guidelines on specific farm practices and pesticide threats to pollinators. To complement this new resource, we prepared a workshop curriculum that provides training on native pollinator conservation on organic farms; this has been delivered to over 400 people.

We also developed *Pollinators and Roadsides: Managing Roadsides for Bees and Butterflies*. These guidelines review the latest science-based information on the conservation potential of roadside habitat and offer practical advice on how to maximize the value of these areas for pollinators, while still meeting traffic safety requirements. We collaborated with the Minnesota Department of Natural Resources to produce a poster based on these guidelines.

## Upper Midwest Pollinator Meeting

In August 2010, we convened a meeting at the University of Wisconsin – Eau Claire to discuss pollinator conservation issues affecting Minnesota and Wisconsin. Twenty-four representatives from farm organizations, universities, nonprofit conservation organizations, and state and federal agencies from the two states attended. The meeting represents a first-of-its-kind collaboration between agriculture, conservation, and

government stakeholders to coordinate regional pollinator conservation efforts.

Participants identified the most critical knowledge gaps and arrived at a better understanding of the most significant pollinator conservation concerns facing the region. A set of formal recommendations were published following the conference. These have been distributed to state and federal policy makers.

## Partnership with the Natural Resources Conservation Service

The 2008 Farm Bill included a number of provisions to encourage the establishment of native pollinator habitat. These provide a unique opportunity to work with agency staff and farmers. Consequently, we have worked to fully integrate native pollinators into Natural Resources Conservation Service (NRCS) conservation programs, collaborating directly with national, regional, and state staff to develop resources for implementing Farm Bill conservation programs.

Working at both the state and national levels, we accomplished monumental gains through the Conserva-

tion Reserve Program (CRP). In late October 2010, the USDA Farm Services Agency (FSA) published the results of the most recent CRP sign-up, including new contracts to plant pollinator-friendly wildflowers on more than 41,000 acres nationwide.

Our second major CRP achievement occurred through a CRP sub-program, State Acres for Wildlife Enhancement (SAFE). In Wisconsin, we worked with the FSA, NRCS, and several other conservation groups to expand an existing Karner blue butterfly SAFE program by 1,000 acres.



Photograph © Katharina Ullmann

Native bee habitat created on a farm in California's Central Valley.



# ENDANGERED SPECIES

## Bumble bees

We made significant progress in our effort to protect at-risk bumble bees during 2010. Diseases transferred from commercially raised bumble bees have been implicated in the documented declines in several species of wild-living bumble bees. The Xerces Society worked with Defenders of Wildlife, the Natural Resources Defense Council, and key bumble bee scientists to submit a petition in January 2010 to the USDA's Animal and Plant Health Inspection Service (APHIS). The petition requested that APHIS create new regulations to restrict interstate shipping of commercial bumble bees. The petition was supported by over sixty scientists, and as a result, APHIS has begun developing the necessary regulations.

Over 250 media outlets ran stories on the issue, including *The New York Times*, *Washington Post*, *LA Times*, *Seattle Times*, *USA Today*, *Boston Globe*, *San Francisco Chronicle*, *Houston Chronicle*, and BBC Radio.

## Western Glacier Stonefly

The western glacier stonefly is known from only five small streams on the east side of the Continental Divide in Glacier National Park. These streams are fed by extremely cold glacial meltwater. The park's glaciers are predicted to disappear as early as 2030 as a result of climate change, and with them, the cold water on which

## Gila Mayfly

The Xerces Society, working with WildEarth Guardians and mayfly expert Dr. William Patrick McCafferty of Purdue University, filed a petition with the US Fish and Wildlife Service seeking Endangered Species Act protection for the Gila mayfly. This mayfly is known solely from a small area of the Gila River drainage system in Grant County of southwestern New Mexico.

The Gila mayfly requires clean, fast-flowing water to survive (they spend several months—the greater part of their lives—under water), yet a scientific status re-

In November 2010, a group of over four dozen bumble bee scientists, agency staff, and policy makers gathered at the Saint Louis Zoo to develop a conservation strategy for North American bumble bees. This three-day conference was organized by a coalition that included the Xerces Society, the Saint Louis Zoo, Dr. Sydney Cameron (University of Illinois), the Conservation Breeding Specialist Group of the International Union for Conservation of Nature (IUCN), and agency and university researchers.

Related to this, we helped launch the IUCN Bumblebee Specialist Group. Chaired by Paul Williams of London's Natural History Museum and vice-chaired by Sarina Jepsen, Xerces' endangered species director, the group will engage researchers to assess the conservation status of bumble bees in the US and abroad.

We also continue to work with farmers, landowners, and land managers throughout the country to restore habitat for the benefit of native bumble bees.

this unique stonefly depends.

At the end of 2010, the Xerces Society and the Center for Biological Diversity filed a scientific petition asking the US Fish and Wildlife Service to give Endangered Species Act protection to this imperiled animal.

view by Xerces found that the Gila mayfly's streams are threatened by increased sediment and pollution due to recreational activities and cattle grazing. In addition, many streams in the Gila River drainage have high levels of aluminum and are on the Clean Water Act list of impaired waters. Global climate change threatens to alter the hydrology and flow regime of the Gila River, which will further impact this highly sensitive species. This mayfly faces extinction without protection under the Endangered Species Act.

# PUBLIC LANDS

## Interagency Special Status Sensitive Species Program

Throughout 2010 we worked with the USDA Forest Service's and US Department of the Interior Bureau of Land Management's Interagency Special Status Sensitive Species Program to better understand and protect rare invertebrates in Oregon and Washington. To that end we developed status and life history materials on fifteen invertebrate species of conservation interest—

including species of butterflies and snails—and implemented surveys for the Columbia River tiger beetle and four species of rare snails, the Blue mountainsnail, humped coin, southern tightcoil, and Umatilla megomphix. We also undertook detailed surveys for the Siuslaw hairy-necked tiger beetle, mapping the habitats occupied by adults and larvae.

## Bark Beetles

Forest die-off associated with bark beetles is a significant concern across western North America. Often, forest thinning projects are proposed as a way to protect houses and other property.

Xerces executive director Scott Black was the lead author of a major report, *Insects and Roadless Forests: A Scientific Review of Causes, Consequences, and Management Alternatives*, that questions the value of such projects. Scott's co-authors were Dominik Kulakowski, professor of geography and biology at Clark University in Massachusetts; Barry Noon, professor of

wildlife ecology at Colorado State University; and Dominick DellaSala, president and chief scientist of the National Center for Conservation Science and Policy.

The report suggests that bark beetle outbreaks will not lead to greater fire risk, and that tree thinning and logging is not likely to alleviate future epidemics of bark beetles. The report also indicates that tree cutting in roadless forests is unlikely to keep houses safe from wildfire. Findings from the report apply to millions of acres of lodgepole pine and mixed fir forests across North America.



Photograph by Rod Gilbert

Protection for Taylor's checkerspot secures habitat for other species.

# AQUATIC CONSERVATION

## Freshwater Mussels

Freshwater mussels are the most at-risk group of animals or plants in the North America. The decline of freshwater mussels has been well studied in eastern North America, but not west of the Rocky Mountains. Despite the paucity of information, anecdotal evidence suggests that western species are experiencing population declines due to habitat alteration or destruction and loss of host fish species.

To better understand the status and distribution of these animals, the Xerces Society completed a status review of three of the most imperiled western species and species groups: the western pearlshell, the western ridged floater, and the California floater/winged floater group. During this multi-year project, we collected approximately 4,500 records and created detailed maps of the historical distribution, current distribution, and areas searched for each of the species in the western US. These maps were based on records from the scientific literature, biologists, tribes, watershed councils, state agencies, and others. This work identified severe declines in parts of the ranges of each of the species or species groups reviewed, and established that all three are of conservation concern.

In early 2010, we published the status review and distributed it widely to state and federal agencies, Native American tribes, and other conservation and restoration organizations to spur conservation action.

In Multnomah County, Oregon (which includes Portland, the state's largest city), previous surveys have shown that mussel species are lacking from some streams where they likely occurred in the past, but also indicated that urbanized streams—especially those undergoing restoration for salmon—could be an important refuge for these threatened organisms.

## Wetland Macroinvertebrate Assessment

The year 2010 saw the culmination of a four-year project to develop an invertebrate-based tool for assessing wetland quality. Wetlands are important elements of our landscapes, providing water filtration and flood control services, as well as critical habitat for animals and plants. (About half of all federally endangered animals rely on wetlands.) However, there are no reliable,

Xerces Society staff worked with the Johnson Creek Watershed Council, Friends of Crystal Springs, Freshwater Trust, and Clackamas Web Academy to conduct outreach and education about freshwater mussels and to survey for mussels in reaches of Johnson Creek and Crystal Springs Creek.

The project developed and implemented a monitoring protocol for volunteer-based freshwater mussel surveys, and established baseline data on the presence, species, abundance, and age classes of mussels in Johnson Creek and Crystal Springs Creek. It also provided baseline data on the presence and abundance of the invasive, nonnative Asian clam. The project also created outreach materials and increased awareness in the local community of the importance of freshwater mussels in streams. As a result, there is now greater engagement in freshwater mussel conservation and management among area watershed organizations.



Photograph © Marie Fernandez

Western pearlshell mussel.

cost-effective monitoring tools to assess the biological integrity of Pacific Northwest wetlands. This project worked to develop an invertebrate-based biological tool to assess wetland quality, detect responses to anthropogenic stressors, and evaluate restoration success. Although the target area is Oregon's Willamette Valley, the new tool has wider value for the region's wetlands.



Detailed monitoring of wetland invertebrate communities and basic water chemistry parameters was done at fifty freshwater wetlands in the Willamette Valley. These sites included both riverine- and flats-wetlands and natural and restored sites representing a gradient of human impact. The work enabled us to identify community attributes that vary predictably in response to human stressors at natural wetlands, and

assess differences between macroinvertebrate communities at natural wetlands and restored sites.

The Human Disturbance Assessment (HDA) rubric developed in this project allows wetlands to be scored for the level of human impairment. It was also demonstrated that the macroinvertebrate sampling protocols and HDA are robust and can be consistently applied among different trained practitioners.

## Migratory Dragonfly Partnership

Migrating dragonflies may be a surprise to many people, but it is not a newly recorded phenomenon; the first written reports of mass migration date back to the mid-nineteenth century.

In North America, the best-known migrant dragonfly is the common green darner, which makes mass flights each fall in the thousands or millions, traveling from southern Canada and the northern United States down into the southern United States, northern Mexico, and parts of the West Indies. Other North American dragonflies that are considered regular migrants are the variegated meadowhawk, band-winged dragonlet, wandering and spot-winged gliders, and several species of saddlebags.

In recent years, awareness of dragonfly migrations has been focused on northern Mexico, where Pronatura Veracruz staff monitoring the spectacular raptor migration regularly observe clouds of dragonflies moving with the birds. Celeste Mazzacano, Xerces' aquatic program director, joined Pronatura in October to forge a new working relationship, and explore methods for capacity building to enable Pronatura staff to independently monitor dragonflies.

Although dragonfly migration has been documented for well over a century, we still lack basic information, such as what triggers the migration, how dragonflies navigate, and where they overwinter. In some respects we are in a position similar to that of biologists studying the monarch butterfly forty years ago: Although we know there is a phenomenon, we know little about it.

In an attempt to answer these and other questions, Xerces joined dragonfly experts, conservationists, and federal agencies to spearhead formation of the Migratory Dragonfly Partnership, a collaboration aimed at better understanding and conservation of dragonflies and their migration. The partnership was launched in December 2010 at a meeting held in Austin, Texas. Xerces executive director Scott Hoffman Black was named chair of the new partnership, with John Abbott of the University of Texas at Austin as vice-chair.

The goal of the Migratory Dragonfly Partnership is to combine research and citizen science with education and outreach to gain better understanding of North America's migrating dragonflies and, in time, to promote conservation of the habitat on which they rely.



Photograph © Dennis Paulson

The variegated meadowhawk is a regular migrant.

# BUTTERFLY CONSERVATION

## IUCN SSC Butterfly Specialist Group

The International Union for Conservation of Nature (IUCN) reformed its Butterfly Specialist Group after several years of inactivity, and appointed Scott Hoffman Black, Xerces' executive director, as the group's chair. Scott will work to bring together scientists and conservationists to facilitate projects worldwide.

At the IUCN meeting in Cambridge, England, in the fall, Scott discussed his hopes that the group will prioritize work in countries and regions traditionally underserved by butterfly conservation organizations, ensuring that meaningful progress can be made without duplicating the efforts of these groups.

## Monarchs

The monarch butterfly is renowned for its long-distance seasonal migration and its spectacular winter gatherings. The California coast is the only place in the US where significant overwintering clusters occur. The tree groves in which monarchs overwinter are a vital resource for western monarch populations, ensuring the continuity of the butterflies' annual migration.

Annual Thanksgiving counts of overwintering monarch clusters in California—coordinated by Xerces volunteer Mía Monroe and two other monarch scientists—shows that western monarch populations have dropped by nearly 90 percent over the past decade. These declines highlight an urgent need to gain a clear understanding of the status of monarch overwintering sites and populations, and to take appropriate conservation actions. We work to protect and restore the overwintering sites by creating public support and ensuring a solid scientific basis for stewardship of these habitats.

In 2010, Xerces worked to understand the status of monarch overwintering sites in California. To assess the status of these sites, we collected all of the available information from over eighty-five unpublished and published reports and dozens of individuals, including scientists and volunteers. The resulting database provides a picture of the conservation status of each overwintering site, and allows us to identify gaps in knowledge and prioritize sites for on-the ground assessments. Our outreach materials reached thousands of people with a message of monarch conservation, and Xerces staff presented information on monarchs to over two hundred people at talks and seminars this past year.

Monarchs not only need places to overwinter they also need areas in which to breed. To that end we launched a three-year project to increase the abundance



Photograph © Bryan E. Reynolds

Monarch nectaring on milkweed.

of milkweed plants, the food source for monarch caterpillars. Xerces staff work with the NRCS and native seed producers to develop sources of regionally appropriate native milkweed, with a focus on states in the southwest and southeast, regions important for monarchs returning in the spring. The project is developing guidelines and an online directory that provides complete information on using milkweed in habitat restoration projects. This information is also being incorporated into workshops Xerces conducts for farmers, land managers, and conservation professionals.

This project directly addresses one of the critical actions identified by the *North American Monarch Conservation Plan*, published in 2008 by the Commission for Environmental Cooperation. The plan calls for groups to plant regionally appropriate milkweed species and to develop guidelines for farm buffers as nectar sources.



# WINGS AND CALENDAR

## *Wings. Essays on Invertebrate Conservation*

Our membership magazine, *Wings. Essays on Invertebrate Conservation*, has continued in its tradition of presenting the best writing and photography about invertebrates. The spring 2010 issue featured a mixture of articles on subjects as diverse as sea anemones, katydids, and bark beetles. The fall issue focused on butterfly conservation, with contributions from scientists in Britain, Turkey, Japan, and the United States.

We could not produce *Wings* without the support of the contributors. The Society’s board and staff offer their thanks to the authors who so generously shared their knowledge and time, and to the photographers who allowed us to use their photos. Our thanks also goes to John Laursen at Press-22, whose design skills and eye for quality are central to the success of the magazine.



## North American Bee Calendar

This was the second year in which a bee calendar has been produced in association with the Great Sunflower Project. The 2011 calendar features gorgeous full-page “pin-ups” of twelve bees, accompanied by smaller photos and notes on their natural history and contribution to crop pollination.

The calendar was produced by Celeste Ets-Hokin, a California-based volunteer, and edited by Xerces staff. The great majority of the photographs were contributed by Rollin Coville, though the calendar also features photographs by Kathy Keatley Garvey, Celeste Ets-Hokin, and others. The Xerces Society thanks all of the contributors for their time and effort.



# THANKS TO FUNDERS

## Thank You to Our Supporters

The board and staff of the Xerces Society extend their gratitude to the following foundation, public, and corporate supporters. The financial support these organizations provided to the Xerces Society during 2010 was a key component of the success of our conservation programs. Thank you!

Aveda's Earth Fund  
Bullitt Foundation  
Christen C. and Ben H. Garrett Family Foundation  
Columbia Foundation  
Cornell Douglas Foundation  
CS Fund  
Disney Worldwide Conservation Fund  
Dudley Foundation  
East Multnomah Soil and Water Conservation District  
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Maki Foundation  
McCune Charitable Foundation  
Natural Resources Foundation of Wisconsin  
New-Land Foundation

Norcross Foundation  
Organic Valley Farmers Advocating for Organics Fund  
Oregon Watershed Enhancement Board  
Oregon Zoo Foundation's Future for Wildlife Conservation Fund  
Panta Rhea Foundation  
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USDA Speciality Crop Research Initiative  
USDA Western Sustainable Agriculture Research and Education  
US Department of the Interior Bureau of Land Management  
US Environmental Protection Agency  
Whole Systems Foundation  
Wildwood Fund

## Thank You to Our Members

Thank you, members! Your support makes it possible for the organization to spend more time accomplishing program goals and less time fundraising.



# 2010 FINANCIAL REPORT

## Financial Position for the year ended December 31, 2010 (Audited)

Cash	\$ 348,522	Accounts payable	\$ 61,688
Investments	134,593	Payroll & retirement payable	115,361
Contracts receivable	175,775	<i>Total liabilities</i>	<u>177,049</u>
Grants receivable	110,000		
Inventory	2,086	Unrestricted net assets	236,915
Prepaid expenses	8,598	Temporarily restricted	<u>379,865</u>
Net property and equipment	14,255	<i>Total net assets</i>	<u>616,780</u>
<b>Total assets</b>	<b>\$ 793,829</b>	<b>Total liabilities and net assets</b>	<b>\$ 793,829</b>

## Financial Activities January to December 2010 (Audited)

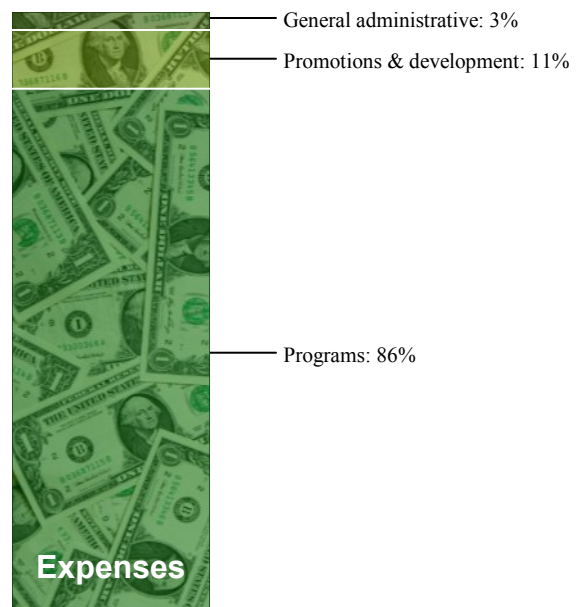
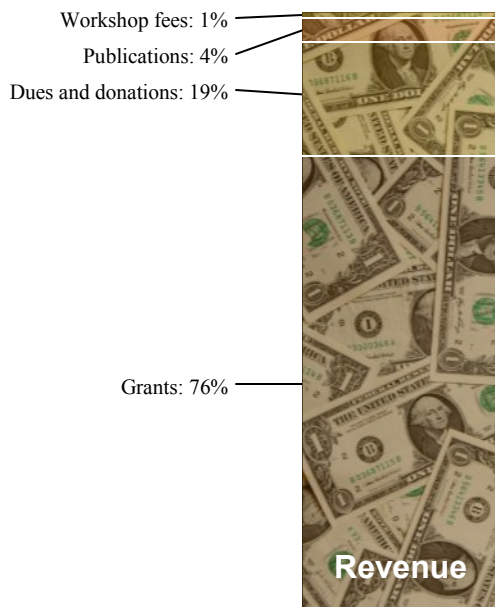
### REVENUE

Grants	\$ 979,776
Dues and donations	242,655
Publications	57,104
Workshop fees	15,716
Net other revenue & unrealized gain	15,398
<b>Total revenue</b>	<b>\$ 1,310,649</b>

### EXPENSES

<i>Aquatic program</i>	\$ 124,606
<i>Conservation and education</i>	115,943
<i>Pollinator program</i>	673,734
<i>Endangered species program</i>	<u>184,902</u>
Programs	1,099,185
Promotions & development	134,745
General administrative	<u>37,295</u>
<b>Total expenses</b>	<b>\$ 1,271,225</b>

**NET INCOME** \$ 39,424



# BOARD AND STAFF

## Board of Directors

### **May Berenbaum, Ph.D., President**

May is Swanlund Professor and head of the Department of Entomology at the University of Illinois, Urbana-Champaign, and a member of the National Academy of Sciences.

### **Linda Craig, Treasurer**

Linda is a member of the American Institute of Certified Public Accountants and runs her own accounting firm.

### **Sacha H. Spector, Ph.D., Secretary**

Sacha is the Director of Conservation Science at Scenic Hudson, and helps administer the ScarabNet Global Taxon Database.

### **David Frazee Johnson**

David is the Faculty Grants Manager at Reed College, Portland, Oregon.

### **Scott E. Miller, Ph.D.**

Scott is Curator of Lepidoptera in the Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington, D.C.

### **Marla Spivak, Ph.D.**

Marla is Professor, Apiculture and Social Insects, Department of Entomology, University of Minnesota.

## Counselors and Advisors

Paul R. Ehrlich  
Claire Kremen  
John Losey  
Thomas Lovejoy  
Jerrold Meinwald  
Michael G. Morris  
Piotr Naskrecki  
Paul A. Opler

Dennis Paulson  
Robert Michael Pyle  
Michael Samways  
Cheryl Schultz  
Robbin Thorp

### **Scientific Advisor**

E.O. Wilson

## Staff

Scott Hoffman Black, Executive Director  
Brianna Borders, Plant Ecologist  
Megan Faria, Accounting Associate  
Suzanne Granahan, Membership and Administrative Associate  
Jessa Guisse, Pollinator Habitat Restoration Specialist (California)  
Jennifer Hopwood, Midwest Pollinator Outreach Coordinator  
Sarina Jepsen, Endangered Species Program Director  
Sarah Foltz Jordan, Conservation Associate  
Eric Mader, Assistant Pollinator Program Director  
Celeste Mazzacano, Staff Scientist/Aquatic Program Director

Ashley Minnerath, Executive Assistant  
Matthew Shepherd, Senior Conservation Associate  
Chris Stockner, Grants Manager (up to October 2010)  
Mace Vaughan, Pollinator Program Director, Joint Pollinator Conservation Specialist for NRCS West National Tech Support Center  
Laura Westwood, Grants Manager (from November 2010)

### **Consultants**

Logan Lauvray, Finance Consultant  
Elaine Evans, Conservation Consultant  
Regina Hirsch, Great Lakes Pollinator Outreach Specialist







**THE XERCES SOCIETY**  
**FOR INVERTEBRATE CONSERVATION**

The Xerces Society for Invertebrate Conservation is a nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat. Established in 1971, the Society is at the forefront of invertebrate protection worldwide, harnessing the knowledge of scientists and the enthusiasm of citizens to implement conservation programs. Our work focuses on three principal issues: endangered species, healthy waters, and pollinator conservation.

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**Cover photo**

Blue-winged olive mayfly (*Baetis tricaudatus*). (Photograph © David H. Funk.)