

REGINA M. HIRSCH

1535 Observatory Drive, Madison, WI 53706

(608) 335-7755

rmhirsch@wisc.edu

EDUCATION:

Ph.D. **Department of Wildlife Ecology. University of Wisconsin Madison.** 2002. Minor: Entomology.

Dissertation: *Birds, Frogs, And Farmers: A Community-Based Mitigation Project.*

Advisor: Dr. Stanley A. Temple

M.S. **School of Forestry and Environmental Studies. Yale University.** 1990. Concentration:

Conservation Biology.

Thesis: *Choice of artificial nest structures by the endangered yellow-shouldered blackbird, *Agelaius xanthomus*.*

Advisor: Dr. Steven R. Beissinger

B.S. **College of Letters and Science. University of Wisconsin Madison.** 1984. Major: Psychology.

Senior Thesis: *The impact on different social settings on behavioral development in infant rhesus monkeys.*

Advisors: Dr. Stephen J. Suomi and Dr. J. Dee Higley

CERTIFICATES:

Permaculture Design Course (Madison Permaculture Guild, 2013); **Kundalini Yoga Instructor Training** (Kundalini Research Institute, 2013); **Project Management Planning, Scheduling and Control** (UW Executive Education and Wisconsin School of Business, 2009).

SKILLS:

- *Program Management:* Experience managing multiple projects simultaneously, doing budgeting and accounting, reporting, identifying and coordinating team members, facilitating team meetings, and developing action plans and timelines.
- *Writing:* Published articles for a variety of publications.
- *Fund Development:* Identified potential funding sources and successfully received \$2.2 million.

PROFESSIONAL EXPERIENCE:

University of WI Madison, Center for Integrated Agricultural Systems

Madison, WI

Associate Scientist (Part-time)

September 2020 - Present

- Hard Cider Project – organize and facilitate meetings with cider makers and conduct surveys of cider maker distributors and retailers, review, write, and edit journal articles.
- Grassland 2.0 Project – representative on two committees: policy and markets to promote grass-fed livestock, sustainable farming practices, equity, and conservation.
- LFPP Project – organize meetings with both Food Hub and Madison Food Terminal, grant writing.
- Hazelnut Project – develop cluster network of growers, organize network meetings and trainings, and organize meetings with Hazelnut project collaborators.

Advanced Engines Development Corporation

Milwaukee, WI

Vice-President of Operations (2018-present) and

June 2007 – Present

Director of Strategy and Planning (2007-2018) (Part-time & Full-time)

- Project management of existing projects, and commercialization of finished projects. Build customer relations through effective communications.

- Organize and facilitate strategic planning meetings for new and existing research projects, proposals, and company future goals.
- Research and co-wrote technical proposals for new and existing projects with Federal, State, Private Companies, and Investors for new fuel-efficient engines.
- Research policies on engine and vehicle emissions.
- Negotiate contracts and manage all financial aspects of contracts and business and analyze budgets and expenditures for contracts wrote reports and presentations.

R.M. Hirsch Environmental Consulting, LLC

Stoughton, WI

Consultant and Educator

March 2004 – Present

- Work with Wisconsin Academy of Sciences, Arts & Letters to evaluate their Climate and Energy program by developing and analyzing an on-line survey and conducting phone interviews of key participants.
- Co-create, conduct, and market continuing education workshops with other educators on native pollinator conservation and designing edible landscapes using permaculture and forest garden principles and practices.
- Work with IPM Institute and American Farmland Trust to design and promote their Best Management Practice Programs to farmers for reducing nutrient loss and tillage practices.
- Work with IPM Institute, state and local partners to change NRCS program policy to include Integrated Pest Management in Ohio and Minnesota.

University of WI Madison, Center for Integrated Agricultural Systems

Madison, WI

Outreach Specialist (Part-time)

April 2006 – Dec. 2014

- Expanded the Eco-Fruit program from 12 Wisconsin farmers to over 100 in the upper Midwest states: provided educational opportunities and farmer led research in orchards and vineyards.
- Successfully changed NRCS policy on pest management incentive programs in WI.
- Collaboratively designed, developed and taught a variety of educational training courses:
 - Native pollinator conservation training workshops (with the Xerces Society) for government officials, farmers, and landowners.
 - Workshops about NRCS policy changes for specialty crops for government officials, county conservationists, and farmers.
 - Three-day farmer training courses and field-based workshops on IPM and fruit growing and a three-week intensive training course for new independent fruit IPM consultants.
- Supervised 1-3 interns per project.
- Successfully wrote grant proposals, developed project budgets, and obtained funding for ~\$600,000 in programs. Managed all grant awards budgets, analyzed data, and wrote reports.

Explore – Innovative Solutions

Stoughton, WI

Executive Director and Founder

Sept. 2006 – May 2009

- Built a coalition of community, University, non-profits, and government officials within Southern Baja California to protect and conserve the integrity of the only regional freshwater estuary.
- Worked with local non-profits to develop educational materials and training to educate government officials and community members about the proposed development impacts on freshwater sources.

University of WI, Gaylord Nelson Institute of Environmental Studies

Madison, WI

Visiting Instructor and Honorary Fellow

Jan. 2004 - April 2005

- Designed and taught new graduate seminar on Community-Based Conservation with an emphasis on worldwide Sea Turtle Conservation Projects.

U.S. Environmental Protection Agency, Office of Pesticide Programs

Washington, D.C.

Wildlife Ecologist

April 1991- Feb. 2001

- Conducted ecological risk assessments for pesticides prior to registration.
- Reviewed, evaluated, and analyzed laboratory tests, field studies, and open literature to determine toxicity of pesticides to non-target plants and wildlife.
- Organized and facilitated multi-disciplinary team of economists, biologists, and decision-makers to modify risk-benefit analyses to include environmental costs of pesticide use.

Smithsonian Institution, International Wildlife Conservation and Management Training Course

Associate Instructor and Program Coordinator, Front Royal, VA, May - August 1987 & 1988; May- Dec. 1990

- Instructed students from developing countries on wildlife research techniques and program usage.
- Advised students on independent field projects, data analysis, and research reports.
- Assisted with organization and development of course, including awards ceremonies and banquets.

Yale University, School of Forestry and Environmental Studies

New Haven, CT

Coordinator and Instructor of the Wildlife Management Module

August 1989

- Developed, coordinated, and implemented the first wildlife conservation and management techniques module for Master's Program.

Department of Natural Resources and U.S. Fish and Wildlife Service

Boqueron, PR

Wildlife Biologist

May - July 1989

- Assisted in implementing the endangered species recovery plan for the yellow-shouldered blackbird.

Advanced Engines Development Corporation

Milwaukee, WI

Office Manager and Technical Analyst

Aug. 1987 - May 1988

- Managed all accounts and records and arranged travel and client meetings.

First Hospital

Milwaukee, WI

Psychiatric Aide

March 1986-May 1987

- Facilitated client activities and documented interactions.
- Counseled on Crisis Intervention Line and assisted in relaxation therapy.

University of WI, Harry Harlow Primate Laboratory

Madison, WI

Research Assistant and Undergraduate Supervisor

Sept. 1982-March 1985

- Supervised undergraduates and assisted with their research project design and implementation.
- Designed, organized, implemented, and analyzed data for research projects on behavior and development of rhesus monkeys.

POST DOC EXPERIENCE:

University of WI, Department of Entomology

Madison, WI

Post Doc

Dec. 2004-March 2006

- Coordinated a team of farmers, federal government, UW-Extension, and private companies to develop a new statewide USDA farm bill policy for specialty crops on integrated pest management (IPM).

Environmental Defense Fund, Ecosystem Restoration Program

Madison, WI

Science Fellow

Jan. 2003 -March 2004

- Collaborated with Federal, State, and non-profit biologists to identify agricultural practices that promote wildlife habitat and conservation, and then fund practices using Farm Bill Conservation Programs.

University of Wisconsin, Department of Wildlife Ecology

Madison, WI

Faculty Associate

July - Dec. 2002

- Developed and conducted an interdisciplinary ecosystem management course.

University of Wisconsin, International Agricultural Programs

Madison, WI

Post Doc

April - July 2002

- Researched and wrote paper on participatory research for a workshop in China.

VOLUNTEER & POLITICAL EXPERIENCE:

Stoughton City Council: *Elected Alderperson (April 2015 – Present)*

Council President, 2020-present; Vice-President of Council 2018-2019. While Chair of Parks and Rec Committee (2016-2020), passed new Integrated Pest Management (IPM) policy for all parks and green spaces, extended trail system, solar powered new park shelter, created city-wide bike routes, and working to build a whitewater park on the Yahara River. Redevelopment Authority (RDA) committee memberwork with city staff, council, and developers to ensure that new and renovated buildings use “green” materials and designs, promote renewable energy, and create opportunity for diversity. Member of Community Affairs & Council Policy (CA/CP) and Utilities Committees which are working to identify renewable energy targets and next steps to achieving these target goals. CA/CP committee we successfully passed resolution to create Indigenous People’s Day to be celebrated each October. Work to ensure budgets and borrowing are fiscally responsible. Other City committees served on: Finance, Public Safety, Rivers and Trails Task Force

Sustainable Stoughton: *Founding Board Member and Treasurer (2014-Present)*

Organize quarterly Green Thursday educational events focusing on sustainability issues (renewable energy, home energy audits, native pollinators, bats, gardening, backyard chickens, local CSA’s, etc.). Organize annual Earth Day Expo bringing together over 60 local artists, farmers, and musicians, City Park & Rec, utilities, Stoughton wellness programs, and other local businesses and non-profits for a full-day event. Organize local Farm to Table Dinners for ~130 guests. Fund raising. Responsible for accounting and communications (Facebook, website, newspaper, email, and posters).

The Gathering: *Soup Kitchen Cook (2011-present)*

Island Birding: *Board of Directors (2012-2017)*

Yahara River Grocery Coop: *Board of Directors (2009-2011)*

TEACHING/TRAINING EXPERIENCE:

Adult Education Courses and Workshops

- Kundalini Yoga and Meditation, weekly 90 minute class, 2013-2019, Stoughton, WI
- Kundalini Yoga Breathwalk, Contemplative Walk Series, 2-hours, May 2017, Madison, WI
- Inner and Outer Landscapes, 2-hours, July 2016, Madison WI.
- In deep (in-depth) with Prairie Plants, Riveredge Nature Center, Newburg, WI, 1-hour, Aug 2015
- Introduction to Growing Woody Perennials, Viroqua, WI, 8-hour workshop. Oct. 2013
- Native Pollinator Conservation and Habitat Establishment –1- 2-hour workshop
 - Pleasant Springs Garden Club, Stoughton, WI, July 2017,
 - Green Thursday Event, Sustainable Stoughton, Stoughton, WI, March 2015
 - Rusk County Garden Clubs, Ladysmith, WI, Jan. 2013
 - Rotary Botanical Gardens, Janesville, WI, May 2013
 - UW Extension Rusk and Taylor Counties, Fifield, WI, Aug. 2011
 - Michael Fields, East Troy, WI, May 2011
 - Beginner Apple Growers School, Madison, WI, Feb. 2010 & Mar. 2011
 - Northcentral Land Stewardship Conference, Prentice, WI, April 2010
 - Master Gardener Class, Olbrich Gardens, Madison, WI, October 2009

- Native Pollinator Conservation and Habitat Establishment – 6 hour workshop
 - Peninsula Agriculture Research Station, Sturgeon Bay, WI, Aug. 210
 - Lake Wisota State Park, Chippewa Falls, WI, Aug. 2010
 - Agriculture and Energy Resource Center, Ashland, WI, Aug. 2010
- IPM Fruit Consultant course, 11 day course
 - 5-Days. Madison, WI. Jan. 2011
 - 3-Days. LaCrescent, MN, Trempealeau, Galesville, and Alma, WI, June 2011
 - 3-Days. Mequon and Sturgeon Bay, WI, July 2011
- Beginning Apple Growers School, Madison WI, 2.5 days, Feb. 2010
- Beginning Grape Growers School, Wisconsin Dells, 3-days, March 2014.
- Field-based IPM workshops for apple growers, 8-hours
 - LaCrescent, MN, June 2012
 - Sheboygan Falls, WI, June 2012
 - Galesville, WI, June 2010
 - Bayfield, WI, June 2013
 - Sturgeon Bay, WI, June 2006, 2009,
 - Waukon, Iowa, June 2014
 - Eau Claire, WI, June 2013
- Field-based IPM workshop for grape growers, New Lisbon, WI, 8-hours, July 2014
- International Wildlife Conservation and Management Training Course – 10 week course. Front Royal, VA. 1987, 1988, 1990; 8 week course, Shanghai, China, 1990.

Higher Education at University

- Community-Based Conservation: Worldwide Sea Turtle Conservation Projects, Nelson Institute, UW-Madison, WI. Spring Semester 2004 and 1 week Fall Semester 2004 in Southern Baja, Mexico
- Interdisciplinary Ecosystem Management Course, Department of Wildlife Ecology, UW-Madison, WI. Fall Semester 2002.
- Wildlife Management Module, Yale University, New Haven, CT. Aug. 1989.

Courses Taught as a Teaching Assistant at UW- Madison

- Introduction to Animal Biology, Spring Semester 2002
- Capstone Course: Habitat Conservation Planning, Spring Semesters 2001 and 2002
- Wildlife Conservation and Field Techniques Field Course, Spring Semester 2001
- Terrestrial Vertebrates, Spring Semester 2001
- Extinction of Species, Fall Semesters 1998, 1999

AWARDS/SCHOLARSHIPS:

- 2011 Wisconsin Idea Award, Eco-Fruit Project
- 2001 Aldo Leopold Scholarship (Green Tree Garden Club) \$2000
- 1988 Yale University, School of Forestry and Environmental Studies \$2000
- 1989 Yale University, School of Forestry and Environmental Studies \$2000

GRANTS/FUNDING:

- 2015 Super Ultra Low Emission (SULE) Diesel- Hybrid Motorcycle. U.S. Department of Transportation, SBIR – \$99,881- Senior Personnel (PI N. Hirsch)
- 2013 42% Fuel Efficient, 650 HP, Advanced Diesel Technology Demonstrator, and 240 HP 6.5L HMMWV Engine. U.S. Department of Defense, U.S. Department of Defense, PM-LTV Phase III funding – \$849,861- Senior Personnel (PI N. Hirsch)

- 2012 Advancing the use of IPM with Midwest Apple and Grape Growers, NIFA, Regional IPM North Central Grant – \$60,773 – Co-PI with T. Green
- 2012 42% Fuel Efficient, 650 HP, Advanced Diesel Technology Demonstrator, and 240 HP 6.5L HMMWV Engine. U.S. Department of Defense, U.S. Department of Defense, SBIR Phase II funding – \$515,651- Senior Personnel (PI N. Hirsch)
- 2012 Growing Woody Perennials in the Kickapoo Region. Kickapoo Valley Forest Stewardship Project, Nuzum – \$6,860- Senior Personnel (PI B. McCown)
- 2009 Develop and test pollinator habitat job sheets. Xerces Society, NRCS Conservation Innovation Grant (CIG) – \$59,227 – Senior Personnel (Co-PI's M. Vaughn, R. Groves, M. Miller)
- 2009 Conservation of native bees. Xerces Society, CERES Foundation – \$40,000- Senior Personnel Co- (Co-PI's C. Gratton, M. Vaughn, M. Miller)
- 2009 Expanding the use of IPM in Midwest fruit production. U.S. Environmental Protection Agency, Office of Pesticide Programs – \$209,042- Co-PI with M. Miller
- 2009 On-Farm Research & Demos in WI Orchards to increase IPM. U.S. Environmental Protection Agency, Office of Pesticide Programs, Pesticide Environmental Stewardship Program (PESP) – \$50,000 – Co-PI with M. Miller
- 2009 Develop and implement Midwest Beginning Apple Growers School. North Central Risk Management Education Center – \$36,200 – Co-PI with J. Hendrickson
- 2008 Pesticide reduction in WI fruit production. U.S. Environmental Protection Agency, Office of Pesticide Programs, Pesticide Environmental Stewardship Program (PESP) – \$50,500 – Senior Personnel (Co-PI's M. Miller, B. McCown)
- 2006 Pesticide Risk Reduction in Wisconsin Fruit Production. American Farmland Trust – \$49,000 – Senior Personnel (Co-PI's B. McCown and M. Miller)
- 2005 Technical Advisor to Wisconsin Apple Project. Center for Agricultural Partnerships, Inc., North Carolina – \$11,000 - PI
- 2004 Promoting the Use of Advanced IPM in Wisconsin Apple and Cherry Orchards. U.S. Environmental Protection Agency, Office of Pesticide Programs, Pesticide Environmental Stewardship Program (PESP) – \$ 39,991 – Co-PI with D. Mahr
- 2004 Community-Based Conservation: Endangered Sea Turtles in Baja, Mexico. Kemper-Knapp, University of Wisconsin-Madison – \$5,000 – Senior Personnel (PI N. Mathews)
- 1996 Mitigation of Pesticide Effects on Birds and Amphibians, U.S. Environmental Protection Agency, Office of Pesticide Programs – \$115,000 – PI

PUBLICATIONS:

- Vaughn, M. E. Lee-Mäder, J. K. Cruz, J. Goldenetz-Dollar, J. Hopwood, B. Borders, and R. Hirsch. 2015. Upper Midwest Installation Guide and Job Sheet, Conservation Cover (327) for Pollinators. NRCS. 20pp.
- Miller, M., R. Hirsch, P. Werts and T. Green. 2013. Extending your business range and reaching new clients with low-cost communications technology. *Crops and Soils* 47(1):28-30.
- Hirsch, RM and M Miller. 2008. Progressive planning to address multiple resource concerns: Integrated pest management in Wisconsin orchards. *Journal of Soil and Water Conservation*, Volume 63, Number 2.
- Hirsch, R.M. 2002. *Birds, Frogs, and Farmers: A Community-Based Mitigation Project*. Ph.D. Dissertation. University of Wisconsin – Madison, Madison. 251pp.
- Hirsch, R.M. Summer 1999. A landowner's primer to pesticides. *Woodland Management* 20(2):23-25.

Higley, J.D., W.D. Hopkins, W.W. Thompson, E. A. Byrne, R. M. Hirsch and S. J. Suomi. 1992. Peers as primary attachment sources in yearling rhesus monkeys (*Macaca mulatta*). *Developmental Psychology*, 28(6):1163-1171.

Hirsch, R.M. 1990. Choice of artificial nest structures by the yellow-shouldered blackbird, *Agelaius xanthomus*. Yale School of Forestry and Environmental Studies, Tropical Resources Institute, report no. 41.

Higley, J.D., W.D. Hopkins, R.M. Hirsch, L.M. Marra, and S.J. Suomi. 1987. Infantile coloration as a releasing stimulus of maternal behavior in rhesus macaques (*Macaca mulatta*). *Developmental Psychobiology* 20:7-18.

PROFESSIONAL PRESENTATIONS:

Hirsch, R.M. August 2014. Wisconsin's Native Bees: Who are they, What do they need, and How can I help? Keynote Speaker. Riveredge Nature Center, Newburg, WI.

Hirsch, R. M. July 2010. Success Story: The Eco Apple Project. Soil and Water Conservation Society, St. Louis, MO.

Hirsch, R. M. and S. A. Temple. November 2001. Are some application methods able to reduce pesticide exposure to terrestrial amphibians? Society of Environmental Toxicology and Chemistry, Baltimore, MD.

Hirsch, R.M. and S.A. Temple. August 2001. Are potential behavioral effects caused by pesticide exposure contributing to the decline of terrestrial amphibians? Ecological Society of America, Madison, WI.

Hirsch, R.M. and S.A. Temple. July 2001. Building a consortium in the farming community to reduce effects of pesticides on wildlife. Society for Conservation Biology, Hilo, HI.

Hirsch, R.M. and S.A. Temple. November 2000. A new methodology to assess acute toxicity of pesticides to terrestrial amphibians. Society of Environmental Toxicology and Chemistry, Nashville, TN.

Hirsch, R. and S. Temple. 1998. A methodology to assess exposure to organophosphate insecticides in amphibian species. Midwest Declining Amphibian Conference, Milwaukee, WI.

Hirsch, R. R. Lamb, and M. Rexrode. 1994. EPA initiative to promote ecosystem protection. U.S. Environmental Protection Agency's Office of Pesticide Programs Workshop, Arlington, VA.

Hirsch, R. G. Bonilla, and S. Beissinger. 1992. Increased nest success and subsequent population of yellow-shouldered blackbirds after relocating artificial nest structures. Society for Conservation Biology, Blacksburg, VA.