

Wisconsin Center for Wildlife

2020 Annual Report



College of Natural Resources
University of Wisconsin-Stevens Point



Extension

UNIVERSITY OF WISCONSIN-MADISON

Wisconsin Center for Wildlife

Mission

To engage students, landowners, professionals, and the public in sustainable wildlife management through research, education, and outreach



College of Natural Resources
University of Wisconsin-Stevens Point



Extension

UNIVERSITY OF WISCONSIN-MADISON

WCW Goals

The Wisconsin Center for Wildlife works to achieve its mission through five primary goals:

- Increase public awareness of natural resource issues
- Increase knowledge and skills of wildlife students and professionals
- Increase networking and engagement within the natural resources community
- Promote conservation of wildlife and their habitats
- Resolve human-wildlife conflicts

Endowments

Douglas R. Stephens Chair in Wildlife Endowment

Kennedy-Grohne Chair in Waterfowl and Wetlands

Conservation Endowment

Gerald and Helen Stephens Professor in Wildlife Endowment

The Douglas and Carol Federighi Graduate Assistantship

Douglas R. Stephens Chair in Wildlife Endowment

The Wisconsin Center for Wildlife (WCW) is supported primarily through an endowment established by Gerald and Helen Stephens of Peoria, Illinois. The Douglas R. Stephens Chair in Wildlife Endowment (2013) was created to honor the memory of their son, who graduated with a Bachelor of Science degree in Wildlife Management from UW-Stevens Point in 1991.

A top undergraduate student, Doug unexpectedly died only a few months after he graduated while working on black bear research in northern Wisconsin. A classmate described him as having "...a quiet leadership - the type of person who had never-ending inquiry, a quest to learn."

Two additional endowments established by Mr. and Mrs. Stephens also support the work of the WCW: the Gerald and Helen Stephens Professor in Wildlife Endowment (2017), and the Doug Stephens Wildlife Research Fellowship (2012).

Scott Hygnstrom acts as the Douglas Stephens Endowed Chair, while Jason Riddle serves as Gerald and Helen Stephens Professor of Wildlife, and mentors undergraduate research fellows.



Douglas Stephens (1991)



Gerald and Helen Stephens

Kennedy-Grohne Waterfowl and Wetlands Endowment

In 2015, UW-Stevens Point was awarded a \$2 million Kennedy-Grohne Endowment to support an Endowed Chair position. Ben Sedinger, Ph.D. has served in this role since 2019. These funds were invested by the UW-Stevens Point Foundation to support developing courses, graduate assistantships, undergraduate research fellows, and to match funds for grants and equipment related to waterfowl and wetlands conservation and research.

Special thanks to Ducks Unlimited for their assistance in securing the endowment.

As Kennedy-Grohne Endowed Chair, Ben Sedinger's mission is to advance waterfowl and wetland conservation by (1) training the next generation of wildlife biologists in the theory and application of wetland and waterfowl ecology, (2) conducting cutting edge research to answer interesting questions about waterfowl and wetland ecology, and (3) forming partnerships with NGO's, state and federal agencies, and the general public.

WCW Primaries

The WCW is composed of four wildlife faculty, or “Primaries,” one staff member, and student employees. The WCW Primaries are wildlife faculty who are recipients of endowments or are involved in special wildlife research projects.



Scott Hygnstrom, Ph.D.
Douglas R. Stephens
Chair in Wildlife
Professor and Extension
Wildlife Specialist



Jason Riddle, Ph.D.
Gerald and
Helen Stephens
Professor of Wildlife



Ben Sedinger, Ph.D.
Kennedy-Grohne Chair in
Waterfowl and Wetlands
Conservation



Cady Sartini, Ph.D.
Associate Professor
Bear Research
Project Leader

Associated Staff



Jennifer Summers
Program Development
Specialist

WCW Student Employees



Jaden Kerkhoff
Project Assistant



Jar Xiong
Project Assistant



Ellen Peterson
Project Assistant

Student Teaching Assistants



Joe Quehl
Wildlife 150
Teaching Assistant
(Spring)



Leah Bell
Wildlife 344
Teaching Assistant
(Spring)



Brilyn Brecka
Wildlife 150
Teaching Assistant
(Fall)

Collaborators and Partners

The WCW collaborated or partnered with the following organizations to develop research projects, workshops, student opportunities, and more in 2020.

State and Federal Agencies

- UW-Madison Division of Extension
- Wisconsin Department of Natural Resources
- US Fish and Wildlife Service
- Necedah National Wildlife Refuge
- Yukon Delta National Wildlife Refuge
- Upper Mississippi National Wildlife and Fish Refuge
- US Forest Service
- US Geological Survey
- Natural Resources Conservation Service
- US Department of Agriculture Animal Plant Health Inspection Service National Wildlife Research Center

UW-Stevens Point Organizations

- Wisconsin Forestry Center
- Student Chapter of The Wildlife Society
- Becoming an Outdoors Woman

Non-Governmental Organizations

- Pheasants Forever
- Delta Waterfowl
- Ducks Unlimited
- Wisconsin Waterfowl Association
- National Ecological Observatory Network
- National Wildlife Control Training Program
- International Crane Foundation
- San Diego Zoo Global Academy

Universities

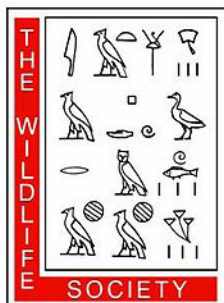
- Southern Illinois University
- Kansas State University

Private Organizations

- Tau Consultants LTD

Professional Organizations

of which WCW Primaries or staff are officers or committee members



Invest in yourself, your wildlife community,
and the future of conservation.



Director's Corner

What a crazy year it has been! In January 2020, things were humming along nicely with the start of the semester, but a dark cloud hung overhead. Rumors and reports were coming in from eastern Asia of a new virus that had perhaps jumped from bats or pangolins to people. Emerging infectious diseases is a particular interest of mine, so I paid attention. Sparks were catching in Seattle, Los Angeles, and elsewhere. I had a wildlife conference in Santa Barbara to attend in early March 2020 and thought twice about going, but there were no reports from the immediate area. I went to the conference and had a look into the future: people shunning contact, stores running out of toilet paper and hand sanitizer, and the threat of travel restrictions. It all seemed to unfold in that week. By the time I returned to Wisconsin, face-to-face classes had screeched to a halt and all were going virtual. Zoom became the platform on which we spent hours on end meeting colleagues and teaching students. It seemed that we ate and slept there too. I recall one day in which I had one six-hour meeting and three one-hour meetings on Zoom. Terms like “Zoomphobia” started creeping into our vocabulary. I wish I had a nickel for every time I heard “unmute yourself” in the last 12 months. I told a joke during a Zoom meeting once...it wasn't even remotely funny! Ok, so much for walking down that muddy memory lane.



Even with the tremendous upheaval in 2020, most of us managed to get by. We still flourished at the Wisconsin Center for Wildlife. We just had to figure out how to do things differently. We hosted the second half of the CNR Spring Seminar Series on climate change online in 2020 and discovered that we could effectively learn and share ideas in the new virtual environment. In Fall 2020, we hosted the first Daniel O. Trainer Seminar Series entirely online that focused on wildlife health and featured presentations on white-nose syndrome, mathematical modeling, pesticides, collaboration, and Covid-19 <https://www.uwsp.edu/cnr/WCW/Pages/Wildlife-Health-Seminar.aspx>. We probably drew more participants from a much broader geographic range than ever would have been possible in person. In addition, we hosted a Living with Wildlife Seminar Series in Fall 2020 that featured presentations on traditional ecological knowledge, elk reintroduction, Leopold's land ethic, and the influence of mercury in our environment <https://www.uwsp.edu/cnr/WCW/Pages/living-with-wildlife-seminar.aspx>. Jennifer Summers, the WCW Program Development Specialist was instrumental in facilitating and promoting all seminars. We thank each of the presenters and audience participants who were able to join us.

Teaching courses entirely online was a new experience for all of us too. I taught Wildlife 150, Living with Wildlife, to over 150 students with Cady Sartini, Ph.D. during Spring and Fall 2020. Lectures had to be recorded, discussion sessions managed, and hands-on-like learning experiences created, all in a virtual environment. We probably couldn't have pulled it off without our tremendously talented Teaching Assistants, Joe Quehl, and Brilyn Brecka. Joe was recognized as the CNR Outstanding Senior in 2020 and Brilyn was recognized with the Wisconsin Chapter of The Wildlife Society's James Hardin Memorial Award in 2020.

Director's Corner Continued

I also managed to teach Wildlife 334 Ungulate Ecology entirely online during Spring 2020 and Wildlife 305 Special Topics – Chemical Immobilization during Fall 2020, which was a feat, considering all the hands-on experiential learning that typically is orchestrated in these courses. Leah Bell was the Teaching Assistant in Ungulate Ecology and she was recognized as the CNR Outstanding Wildlife Student in 2020. Evan Kuhel and Ellen Peterson received scholarships from the San Diego Zoo Global Academy for the Chemical Immobilization course.

It was difficult to let go of face-to-face Extension engagements in 2020, but it had to happen. I spent a lot more time on Zoom than I care to remember, changing the course of action for several in-person Extension workshops, conferences, and meetings that all had to be conducted online. We stopped traveling and shifted to online publications rather than landowner and producer meetings. Several research papers were submitted for publication on bald eagle nesting activity, bat ecology, black bear conflicts, damselfly and dragonfly occurrence, white-tailed deer behavior and habitat selection, and wetland restoration in Wisconsin.



We focus on providing opportunities for education and professional growth for wildlife students. The WCW faculty taught a dozen classes and advised a half-dozen graduate students and nearly 150 undergraduate students during 2020. We issued 14 awards to students who were able to participate in professional meetings online, supported 48 students who received certificates for First Aid/AED/CPR, and hired two students as Project Assistants, three as Teaching Assistants, and six Graduate Assistants. Our critical mass continues to grow in the WCW with the contributions of Ben Sedinger, Ph.D., Jason Riddle, Ph.D., Cady Sartini, Ph.D., and Jennifer Summers. They each help to convey information on a broad range of subjects, including waterfowl, wetlands, population ecology, upland birds, forest-wildlife habitat, quantitative data analysis, human dimensions, human-wildlife conflict, and diversity and inclusivity. We truly have the capability to move the needle in wildlife conservation and education. We just need a little relief from this COVID-19 cloud to help us ramp up and progress at lightning speed. Until next time, be safe and enjoy the new normal as best you can.

A handwritten signature in black ink, appearing to read "Scott Hygnstrom".

Dr. Scott Hygnstrom
Douglas R. Stephens Chair in Wildlife
Director, Wisconsin Center for Wildlife
Professor and Extension Wildlife Specialist

Increasing Public Knowledge About Natural Resources Management

Spring Seminar Series

Our annual CNR Spring Seminar Series featured presentations about climate change by experts from several different natural resources disciplines including wildlife, forestry, fisheries and natural resources policy. We had to postpone the final presentation featuring Perry Barboza, Ph.D. and host it virtually, due to a campus shut down in response to COVID-19. Our first attempt at delivering a live, virtual seminar was very successful, with over 80 people joining! All seminars are available to watch on the our website at www.uwsp.edu/wcw under the “Seminar Series” tab.



The Changing Climate of Natural Resources Management
2020 CNR Spring Seminar Series

All Seminars will be held from 4 - 5 p.m. in the Trainer Natural Resources building, Room 170, UW-Stevens Point, 800 Reserve Street, Stevens Point, Wisconsin

- February 6, 2020**
Hothouse Earth: How Wildlife are Responding to a Changing Climate
Ben Zuckerberg, Ph.D.
University of Wisconsin-Madison
- February 13, 2020**
Adapting to Climate Change in the Northwoods of Wisconsin
Linda Parker
United States Forest Service
- February 20, 2020**
White Rabbit, White Rabbit, White Rabbit
Jonathan Pauli, Ph.D.
University of Wisconsin-Madison
- March 5, 2020**
Climate Change, Culturally Important Species, and Indigenous Focused Climate Adaptation
Rob Croll
Great Lakes Indian Fish and Game Commission
- March 12, 2020**
Wisconsin's Coldwater Trout Fisheries in a Warming Climate
Matt Mitro, Ph.D.
Wisconsin Department of Natural Resources
- March 26, 2020**
Can We Manage Wildlife at the Scale of Climate Change?
Perry Barboza, Ph.D.
Texas A&M University

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www.uwsp.edu/wcw



Fall 2020
Daniel O. Trainer Wildlife Health Seminar Series

All Seminars will be held from 4 - 5 p.m. via Zoom!
Access Zoom links at www.uwsp.edu/wcw

- October 29, 2020**
Strategies for Wildlife Disease Surveillance: Case Study of White-Nose Syndrome in Bats
Jonathan Sleeman, D.V.M.
Center Director
USGS National Wildlife Health Center
- November 5, 2020**
Mathematical Models and Mergansers: Controlling Swimmer's Itch Outbreaks
James Peirce, Ph.D. and Greg Sandland, Ph.D.
Professor of Mathematics and Statistics and Professor of Biology
University of Wisconsin-La Crosse
- November 12, 2020**
COVID-19 and the Nature of Disease Emergence
William Karesh, D.V.M.
Executive Vice President for Health and Policy
EcoHealth Alliance
- November 19, 2020**
We're All in This Together: Collaboration and Communication to Promote Wildlife Health
Margaret Wild, D.V.M., Ph.D.
Professor
Washington State University
- December 3, 2020**
Effects of Agricultural Pesticides on an Endangered Fish
Jessica Head, Ph.D.
Associate Professor
McGill University

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www.uwsp.edu/wcw

Daniel O. Trainer Wildlife Disease Fall Seminar Series

New in 2020!

Together with Wildlife Professor, Shelli Dubay, Ph.D. we hosted the first ever Daniel O. Trainer Seminar Series.

In honor of Daniel Trainer, Ph.D., the CNR's first Dean, this seminar series featured five talks from experts around the country focusing on wildlife health. This was our first fully-virtual seminar series, with all seminars held via Zoom. The seminars were well attended, with up to 95 people joining each seminar! The recordings can be accessed and watched anytime from our website at www.uwsp.edu/wcw and clicking on the “Seminar Series” tab.

Living With Wildlife Seminar Series Fall 2020

The Living with Wildlife Seminar Series is part of the Wildlife 150 Course of the same name. Scott Hygnstrom and Cady Sartini co-instruct the Living with Wildlife course, which is designed for students across the UW-Stevens Point campus who want to learn more about wildlife.

This year's speakers included:

- Cathy Techtmann - "Weaving Together Culture and Science: How Can We Make Our Connections Better?"
- Shanell Budleski - "Wisconsin Elk Reintroduction and Management."
- Curt Meine - "Green Fire - Aldo Leopold and a Land Ethic for Our Time."
- Marie Perkins - "The Role of Mercury in the Health of Wildlife, Humans, and the Ecosystem."

All seminar recordings are available to watch on our website at www.uwsp.edu/wcw under the "Seminar Series" tab!

Increasing Knowledge and Skills of Wildlife Students and Professionals

- Chemical immobilization workshop (held virtually) - October 2020
- American Red Cross First Aid/CPR Training

New in 2020!

- Introduction to Raptor Husbandry Workshop
January 2020

This two-day Raptor Husbandry workshop/course was coordinated by Jennifer Summers and UW-Stevens Point Wildlife Professor Shelli Dubay Ph.D. and instructed by falconers and founders of River Valley Raptors, Joe and Abbey Krumrie. The course was open to students and professionals and taught participants about the basics of raptor husbandry, training, and educational programming and falconry.

Wisconsin Elk Reintroduction and Management

Fall 2020 Living with Wildlife Seminar Series



Shanell Budleski
Wildlife Biologist - LTE
UW-Stevens Point, Wildlife Alumnus
Wisconsin Department of Natural Resources

Tuesday, October 20, 2020

4-5 pm

Zoom Meeting

<https://uwsp.zoom.us/j/75327606872?pwd=OW1QSEhhOFZPeGFMUWQ2ZlF4Y3gvZz07>

Hosted by Wisconsin Center for Wildlife at UW-Stevens Point

Free and Open to Everyone!



Wisconsin Center for Wildlife
College of Natural Resources
University of Wisconsin - Stevens Point



Joe and Abbey Krumrie of River Valley Raptors with a golden eagle, instructing Intro to Raptor Husbandry

Increasing Networking Among Wildlife Professionals and Students

Wisconsin Chapter of the Wildlife Society (WCTWS) 2020 Annual Meeting - February 25 - 27, 2020

- Jennifer Summers assisted with meeting planning and was elected Treasurer
- Scott Hygnstrom coordinated the meeting and served as President

Herpetofauna Symposium

- Jennifer Summers co-organized and moderated a symposium at the WCTWS annual meeting focused on reptiles and amphibians as part of an effort to increase membership of non-game biologists in WCTWS.
- Featured 15 talks and one panel discussion
- Attended by over 75 people



Upper Midwest Ruffed Grouse Symposium

- Jason Riddle co-organized and moderated a symposium at the WCTWS annual meeting focused on ruffed grouse in the upper Midwest. It was a collaborative effort with the Ruffed Grouse Society and state wildlife management agencies across the region.
- Featured nine talks, one panel discussion, and a published proceedings
- Attended by 135 people.



Promoting Wildlife Conservation and Resolving Human Wildlife Conflicts

Forest-Wildlife Habitat Management

Scott Hygnstrom and the WCW are collaborating with Forestry Professor Mike Demchik, Ph.D. and Haley Frater, Program Manager, at UW-Stevens Point's Wisconsin Forestry Center, and others in a state-wide program to promote forest management for wildlife and their habitats. The focus has been on ten demonstration sites, six workshops, and a certification program. Workshops have addressed Timber Marking for Wildlife, White-tailed Deer, Ruffed Grouse, Neotropical Migrants, Old-growth Forest, and Forest Management Cooperatives. All have been well attended by consulting foresters, agency forest and wildlife managers, landowners, and students.

National Wildlife Control Training Program (NWCTP)

Scott Hygnstrom and four colleagues manage the NWCTP, which consists of a 500-page manual, guidebooks, e-books, and a certificate-leading online training program. Ten states currently require NWCTP certificates for wildlife control operator certification or continuing education.

WCW Primaries - Scott Hygnstrom, Ph.D.

Scott Hygnstrom is the Director of the WCW and is the Douglas R. Stephens Endowed Chair in Wildlife. He primarily focuses on extension, creating opportunities for students, professionals, and the public that meet the WCW's mission and goals. Dr. Hygnstrom also teaches several courses at UW-Stevens Point and advises undergraduate students as they work towards a degree in Wildlife Ecology. His research, teaching, and extension efforts often revolve around managing wildlife-human conflicts and white-tailed deer.



Teaching and Advising

Courses Taught at UW-Stevens Point

- Wildlife 344/534 - Ungulate Ecology (Spring 2020)
- Wildlife 305/505 - Special Topics - Chemical Immobilization (Spring 2020)
- Wildlife 150 - Living with Wildlife (Spring and Fall 2020)
- Wildlife 100 - Wildlife Profession and Preparation (Spring 2020)

Advising

- 20 undergraduate students
- 6 WCW student employees
- Student Chapter of The Wildlife Society, Assistant

Instruction

- Conservation Leaders for Tomorrow - 16 students, Dundee IL, January 4-8, 2020.

Scott Hygnstrom, Ph.D.

Awards and Grants

Awards

- *Fellow*, Recognized by The Wildlife Society
- *Outstanding Service Award* - UW-Stevens Point (nominated)

Grants

- *Creation of the Deer Habitat Management Research Units (DHMRU). Project: demonstrating and assessing the integration of Managed Forest Law and Deer Habitat Management.* McIntire-Stennis Cooperative Forestry Program. \$108,451. 2017-2020. Co-PI 20%
- Long-term collaborative relationship to address refuge priorities and objectives at the Upper Mississippi River National Wildlife and Fish Refuge. US Fish and Wildlife Service, \$45,000, 2018-2021, Co-PI (50%)
- Long-range forecasting of the spread of Chronic Wasting Disease across the Upper Mississippi River Valley. US Geological Survey, \$90,000, 2018-2020, Co-PI (10%).

Professional Organizations

Service

Scott Hygnstrom served as President of the Wisconsin Chapter of The Wildlife Society (WCTWS) starting February 2020. While in this role, he facilitated the Annual Meeting, including a plenary session on diversity and inclusivity with Robert Holsman, Ph.D., two symposia on herpetofauna and ruffed grouse with Jennifer Summers and Jason Riddle, Ph.D. and two contributed paper sessions.

The conference was attended by 289 people and generated over \$5,500 for the WCTWS.

In addition, Scott directed a revision of the Chapter's bylaws and improved the committee structure within the organization.



Scott Hygnstrom, Ph.D.

Publications

- Baasch, D.M., A.J. Tyre, **S.E. Hygnstrom**, J.J. Millspaugh, J.M. Gilsdorf, and K.C. VerCauteren. 2020. Resource selection by white-tailed deer in response to conversion of landcover. *Western North American Naturalist*.
- Palumbo, M., J. Straub, M. Al-Saffar, G. Soulliere, J. Fleener, M. Bergeson, J. Coluccy, T. Finger, D. Fowler, B. Glenzinski, R. Griffin, **S. Hygnstrom**, G. Kidd, N. Miller, K. Van Horn, and K. Waterstradt. 2021. Multi-scale waterfowl habitat conservation planning in Wisconsin, USA. *Landscape Ecology*. DOI: 10.1007/s10980-021-01279-7.
- Scharhag, J., C. Sartini, **S. Hygnstrom**, S. Crimmins, and J. Stetz. 2021. Characteristics of non-fatal attacks by black bear: conterminous United States, 2000-2017. *Human-Wildlife Interactions*.15(1) DOI: 10.26077/f70c-9dbf.
- **Hygnstrom, S.** 2020. Pilot studies keep me flying high. *Vertebrate Pest Conference Proceedings* 29:1-4.

Presentations

- **Hygnstrom, S.** Pilot studies keep me flying high. 29th Vertebrate Pest Conference, Santa Barbara, CA. March 3, 2020.
- Summers, J., M. Taylor, and S. **Hygnstrom**. Bat-friendly communities – rise up and be recognized! Conservation Education and Outreach Virtual Conference. August 13, 2020.
- Summers, J., M. Taylor, and S. **Hygnstrom**. Bat management and research update. Wisconsin Wildlife Control Operators Association. Wisconsin Dells, WI. February 13, 2020
- Weisenbeck, N., A. Young, S. **Hygnstrom**, and C. Winterbach. Sex and age ratios of savannah elephants in northern Botswana using digital photogrammetry. Jim and Katie Krause CNR Student Research Symposium (virtual). UWSP. April 2020.
- Weisenbeck, N., A. Young, S. **Hygnstrom**, and C. Winterbach. Sex and age ratios of savannah elephants in northern Botswana using digital photogrammetry. The Wildlife Society Annual Meeting. October 1, 2020.

Scott Hygnstrom, Ph.D.

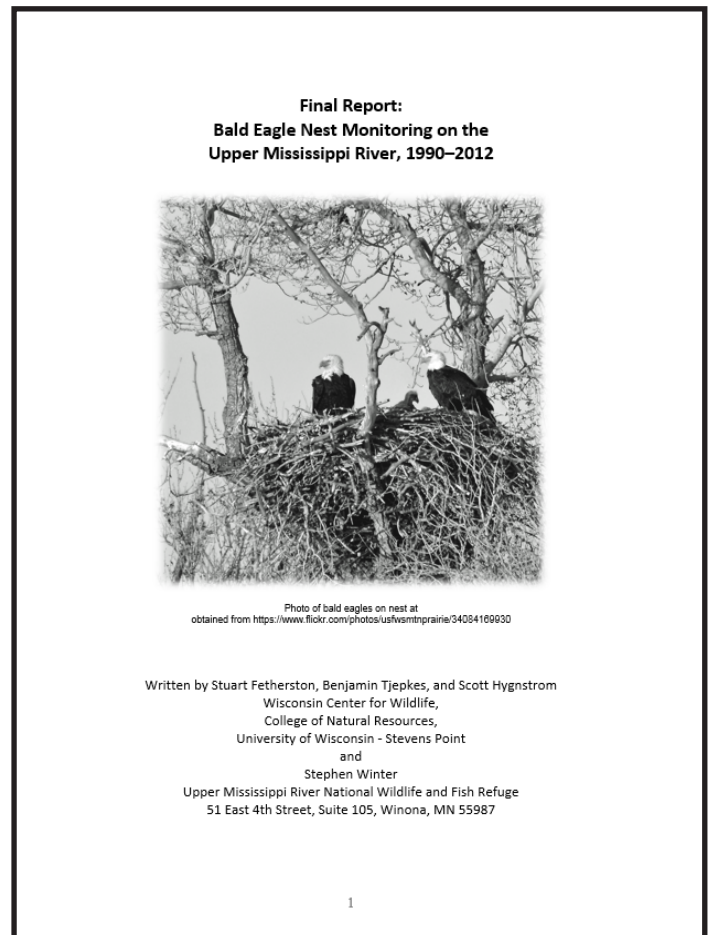
USFWS Cooperative Agreement

The WCW hires up to three student employees per year on a three-year cooperative funding agreement with the US Fish and Wildlife Service. These students are hired to analyze long-term biological survey data that were collected by USFWS biologists. This unique opportunity provides students with experience in data organization and analyses and the opportunity to collect a robust dataset themselves.

Prior to analyses, students organize, update, and upgrade the data sets. Students produce a report for online distribution, describing the data and reporting the findings of the surveys. They then draft papers on a specific topic derived from the data for publication in scientific journals.

In 2020, two students, Stuart Fetherston and Ben Tjepkes finished analyzing 23 years of data on bald eagle nesting activity and published a Final Report (cited below). We are revising the Report with hopes of publishing two articles in scientific journals. In addition, Jaden Kerkhoff, Jar Xiong, and Ellen Peterson worked on three Final Reports on Odonates (dragonflies and damsel flies) based on six years of data collected in the Upper Mississippi River Valley.

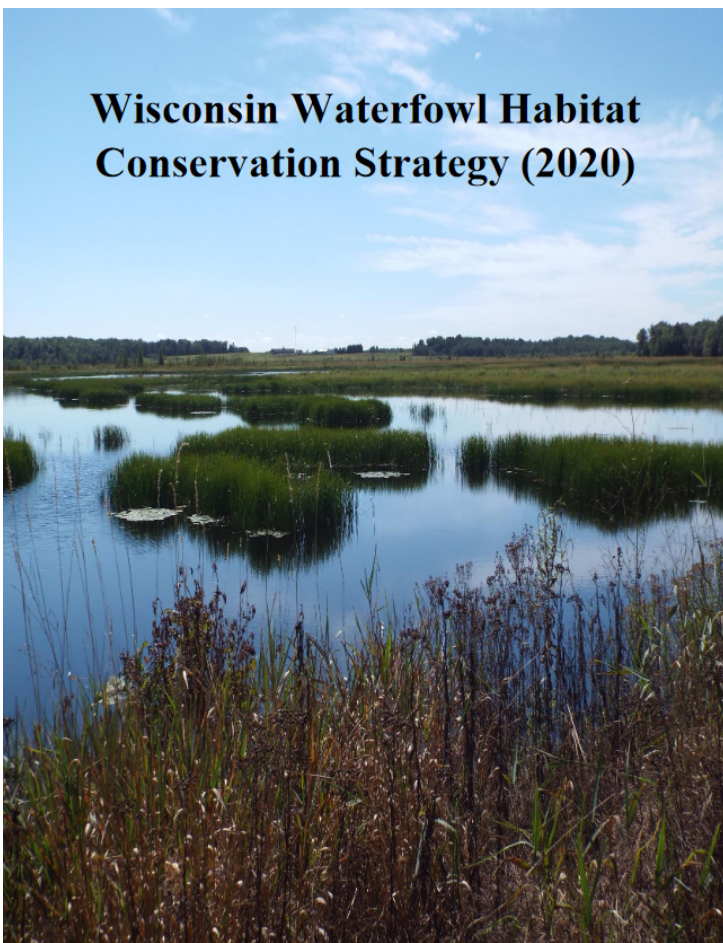
- Fetherston, S., B. Tjepkes, S. Hygnstrom, and S. Winter. 2020. Final Report: Bald Eagle Nest Monitoring in the Upper Mississippi River Valley, 1990–2012. US Fish and Wildlife Service. ServCat. 50 pp.



Scott Hygnstrom, Ph.D.

Wisconsin Waterfowl Habitat Conservation Strategy

Matt Palumbo, Ph.D., former Post-Doctoral Research Assistant at UW-Stevens Point (now working with the New York Department of Environmental Conservation), Jacob Straub, Ph.D., former Kennedy-Grohne Endowed Chair of Waterfowl and Wetland Ecology (now working at SUNY-Brockport), Scott Hygnstrom, and others were involved in a multi-agency project to model waterfowl habitat in Wisconsin. These publications will be used to direct state, federal, and non-governmental funding for the protection and restoration of valuable wetlands in Wisconsin for up to 15 years.



Landscape Ecol
https://doi.org/10.1007/s10980-021-01279-7

RESEARCH ARTICLE

Multi-scale waterfowl habitat conservation planning in Wisconsin, USA

Matthew D. Palumbo · Jacob N. Straub · Mohammed A. Al-Saffar · Gregory J. Soulliere · Jason L. Fleener · Mitchell T. Bergeson · John M. Colucy · Andrew Cruz · Taylor Finger · Drew N. Fowler · Brian J. Glenzinski · Rusty K. Griffin · Scott E. Hygnstrom · Greg Kidd · Nicholas A. Miller · Kent Van Horn · Kurt Waterstradt

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Abstract
Context The North American Waterfowl Management Plan and the Upper Mississippi River/Great Lakes Joint Venture waterfowl habitat conservation strategy provide continental and regional guidance, respectively, for waterfowl habitat conservation planning. They were not designed to guide watershed-scale waterfowl habitat delivery.

Objective Our goal was to develop a waterfowl habitat decision support framework for the state of Wisconsin using biological and social criteria to guide state and local-scale practitioners with an explicit link to larger scale objectives.

Methods We engaged a core group of wetland and waterfowl experts to decide upon decision support layers relevant to biological and social objectives, evaluate variables, establish weights, and review model outputs for reasonableness and accuracy. We used spatial analyst tools, kernel density estimators, and weighted sums to create spatially explicit models

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10980-021-01279-7>.

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Springer

WCW Primaries - Jason Riddle, Ph.D.

Jason Riddle is the Gerald and Helen Stephens Endowed Professor with the WCW. He was awarded the Professorship in 2017 and uses funds from this generous endowment to support graduate and undergraduate research.

Dr. Riddle's research focuses primarily on upland birds including greater prairie-chickens, ring-necked pheasants, wild turkeys, ruffed grouse, and bobwhite quail. He also focuses research and conservation efforts of grassland and woodland habitats.

Awards

- University Leadership Mentor Award, UW-Stevens Point
- Advisor of the Year Award (Nominee) - The Wildlife Society

Grants

- National Ecological Observatory Network (NEON). \$16,531.



Teaching and Advising

Courses Taught at UW-Stevens Point

- Natural Resources 151 - Ecological Basis for Natural Resources Management
- Wildlife 100 - Wildlife Profession and Preparation
- Wildlife 340 - Quantitative Methods for Wildlife and Fisheries Research and Management
- Wildlife 311/511 - Field Experience in Wildlife Management
- Wildlife 458/358- Wildlife Ecology and Conservation Biology

Advising

- 40 undergraduate students
- 20 undergraduate research students
- Student Chapter of The Wildlife Society

Turkey Project Undergraduate Research Fellow

- Shelby Truckenbrod

Boone and Crockett Research Fellow

- Nora Hargett

Graduate Students

- Hannah Butkeiwicz,
- Sabine Berzins

Jason Riddle, Ph.D.

Service

- Steering Committee Chair for “Next Steps” Student Workshop. 2021 Midwest Fish and Wildlife Conference.
- Steering Committee Chair for Upper-Midwest Ruffed Grouse Symposium. 2020 Winter Meeting of The Wisconsin Chapter of The Wildlife Society.
- Departmental Review Subcommittee. UW-Stevens Point committee charged to review and comment on 10-year departmental plans. UW-Stevens Point.
- Summer Field Experience. CNR committee charged with facilitating the Summer Field Experience.

Professional Organizations

- President Elect. North Central Section of The Wildlife Society.
- Interim Past-President of The Wisconsin Chapter of The Wildlife Society.
- Finance and Investments Committee Member with The Wisconsin Chapter of The Wildlife Society.
- Nominations and Elections Committee member of The Wisconsin Chapter of The Wildlife Society.
- Faculty Advisor to the Student Chapter of The Wildlife Society at UW-Stevens Point. Faculty Advisor for the following student chapter projects: Prairie Chicken, Woodpecker, Ruffed-grouse, Saw-whet Owl, and Wild Bird/Crane.
- The Wildlife Society, National membership, Biometrics Working Group member, as well as several state and section memberships at various times.

Jason Riddle, Ph.D.

Publications

Peer- reviewed Publications

- Hyzy, B.A, R.E. Russell, A. Silvis, W.M. Ford, and **J. Riddle**. Investigating maternity roost selection of northern long-eared bats at three sites in Wisconsin. *Endangered Species Research* 41:55-65.
- Hardy, M.A., M.S. Broadway, C.D. Pollentier, V.C. Radeloff, **J.D. Riddle**, S.D. Hull, and B. Zuckerberg. Responses to land cover and grassland management vary across life-history stages for a grassland specialist. *Ecology and Evolution* 10:12777-12791.
- Hyzy, B.A, R.E. Russell, **J. Riddle**, A. Silvis, T. Ginnett, K. Russell, and W.M. Ford. Occupancy and detectability of Northern long-eared bats in the Lake States Region. *Wildlife Society Bulletin* 44:732-740.

Published Symposium and Papers

Jason chaired the steering committee for the Upper Midwest Ruffed Grouse Symposium which was held on February 25, 2020 as part of the Winter Meeting of the Wisconsin Chapter of the Wildlife Society, Wisconsin Rapids, WI. The Symposium will be published as a special edition of *The Passenger Pigeon* (Volume 82). The specific articles Jason co-authored are below.

- Pollentier, C., M. Witecha, J. Steigerwaldt, R. Holsman, M. J. Jaeger, L. Bradshaw, A. Gerrits, H. Butkiewicz, and **J. Riddle**. Ruffed grouse symposium: Management and research priorities. *Passenger Pigeon* 82:91-94.
- **Riddle, J.**, J. Quehl, R. Martin, B. Roberts, L. Cutler, and J. Hansen. Trends in ruffed grouse detection and abundance estimates from a property without hunting pressure. *Passenger Pigeon* 82:100-103.
- Quehl, J., L. Cutler, B. Roberts, R. Martin, and **J. Riddle**. Examining the position of ruffed grouse (*Bonasa umbellus*) drumming logs in relation to their home range. *Passenger Pigeon* 82:105-108.
- **Riddle, J.D.** (compiler and editor). North Central Section of The Wildlife Society Spring Newsletter

Jason Riddle, Ph.D.

Presentations

- **Riddle, J.** Leading effective online meetings. North Central Section of The Wildlife Society Webinar Series. November 18. Virtual.

Directed and Co-Directed:

- Hargett, H., S. Berzins, **J. Riddle**, and S. DuBay. Nest description of sandhill cranes (*Antigone canadensis tabida*) found in Horicon Marsh, WI. Annual Meeting of the Wisconsin Chapter of The Wildlife Society, Wisconsin Rapids, WI. Best Undergraduate Wildlife Presentation Award.
- Roberts, B., J. Quehl, and **J. Riddle**. Ruffed grouse at Treehaven. Timber Marking for Ruffed Grouse Workshop. Tomahawk, WI.
- Lang, A., M. Meehl, M. Fell, and **J. Riddle**. Weight patterns of migrating northern saw-whet owls. Annual Meeting of the Wisconsin Chapter of The Wildlife Society, Wisconsin Rapids, WI.
- Quehl, J., L. Cutler, B. Roberts, R. Martin, and **J. Riddle**. Examining the position of ruffed grouse (*Bonasa umbellus*) drumming logs in relation to their home range and how it can affect auditory drumming surveys. Annual Meeting of the Wisconsin Chapter of The Wildlife Society, Wisconsin Rapids, WI.
- Freymiller, D. M. Meehl, A. Lang, M. Fell, C. Suckow. Differential timing of migration in northern saw-whet owls (*Aegolius acadicus*) based on age and sex groups. 27th Annual Conference of the Wildlife Society (online due to COVID-19). Also presented at the Jim and Katie Krause CNR Student Research Symposium. UW-Stevens Point.
- Cutler, L., B. Roberts, P. Maguire, C. Johnson, and **J.D. Riddle**. Examining ruffed grouse drumming log position and drumming direction as it relates to home range. 27th Annual Conference of the Wildlife Society (online due to COVID-19).
- Hargett, H., S. Berzins, **J. Riddle**, and S. DuBay. Unique characteristics of greater sandhill crane (*Antigone canadensis tabida*) nest sites in Horicon Marsh, Wisconsin. Jim and Katie Krause CNR Student Research Symposium. UW-Stevens Point.
- Hargett, N., A. Lang, M. L. Whitney, and M. A. Seidl. A decade of winter home range size, weight, and fidelity of an individual hairy woodpecker. 27th Annual Conference of the Wildlife Society (online due to COVID-19).

Jason Riddle, Ph.D.

Special Projects

Sabine Berzins wrapped up her thesis on Sandhill Crane Nest Success at Horicon Marsh, WI. Her undergraduate research assistant, Doug Stephens Boone and Crockett Fellow, Nora Hargett, also finished her B.S. in Wildlife Ecology and Management in 2020. Sabine and Nora were co-advised by Jason Riddle and Shelli Dubay, Ph.D., coordinator of the Wildlife Discipline at UW-Stevens Point. Nora's research focused on describing greater sandhill crane nests in Horicon Marsh, Wis. She collected habitat variables at nest sites and compared the values to random locations. She was then employed at the Forbes Biological Station, working on a project investigating the effect of water drawdowns on secretive marsh bird nest and chick survival.

Sabine and Nora both won separate awards at the 2020 Winter Meeting of the Wisconsin Chapter of The Wildlife Society. Sabine won best graduate presentation for her talk, entitled



Nora Hargett with a least bittern chick she encountered while doing field work



Sabine Berzins (left) and Nora Hargett canoing around a wetland while they work on their field research

“Reproductive Success of Greater Sandhill Cranes (*Antigone canadensis tabida*) in Horicon Marsh, WI.” WCW primary, Ben Sedinger was a co-author on that talk as well. Nora won best undergraduate presentation for her talk, entitled “Nest Description of Sandhill Cranes (*Antigone canadensis tabida*) found in Horicon Marsh, WI.” Sabine is currently working on submitting her thesis chapters to the *Wildlife Society Bulletin* and *American Midland Naturalist* for publication. She and Nora are also working on submitting Nora's undergraduate research for publication.

WCW Primaries - Ben Sedinger, Ph.D.

Ben Sedinger is the Kennedy-Grohne Chair in Waterfowl and Wetlands Conservation at the WCW. He advises graduate and undergraduate research focused on waterfowl and wetlands conservation. He also teaches courses at UW-Stevens Point and has developed a unique waterfowl ecology and management course.

Awards

- University Leadership Mentor Award, UW-Stevens Point

Student Awards

- Jordan Thompson - Dave Ankney and Sandi Johnson Waterfowl Research Award
- Casey Kroening -
 - James Harvey Research Award
 - Highest Honors for Oral Presentation - Jim and Katie Krause CNR Student Research Symposium

Grants

- Yukon Delta National Wildlife Refuge (2019-2023) - \$286,496.23
- Upper Mississippi River National Wildlife Refuge (2020-2021) - \$30,000



Teaching and Advising

Courses Taught

- Wildlife 353/553 - Analysis of Wildlife Populations
- Wildlife 742 - Waterfowl Ecology
- Natural Resources 796 - Independent Study - R Coding

Advising

Graduate Students

- Kirsten Schmidt
- Jordan Thompson
- Andrew Greenawalt

Professional Organizations

- American Ornithological Society - member
- The Wildlife Society - member
- The Wisconsin Chapter of the Wildlife Society - member

Ben Sedinger, Ph.D.

Publications (in progress)

- Thompson, J.M., Riecke, T.V., Daniels, B.L., Spragens, K.A., Gabrielson, M., Nicolai, C.A., **Sedinger, B.S.** Survival and cause-specific mortality in American green-winged teal banded on the Yukon-Kuskokwim Delta, Alaska. In review.
- Koons, D.N., Riecke, T.V., Boomer, S.G., **Sedinger, B.S.**, Sedinger, J.S., Williams, P.J., and Arnold, T.W. Lessons to be learned from ecological persistence and forecasting for adaptive management. In review.
- **Sedinger B.**, T. Riecke, P. Williams, T. Arnold, C. Feldheim, D. Koons, F. Rohwer, & J. Sedinger. Cross-seasonal survival models reveal hidden harvest compensation in North American mallard populations. In prep.
- Riecke, T., **B. Sedinger**, R. Alisauskas, T. Arnold, C. Feldheim, D. Koons, J. Leafloor, F. Rohwer, P. Williams & J. Sedinger. Greenheads: rethinking the effects of harvest on waterfowl populations. In prep.
- Riecke, T., **Sedinger, B.**, Arnold, T., Feldheim, C., Koons, D., Rohwer, F., Williams, P., Sedinger, J. Abundance drives cause-specific teal mortality. In prep

Presentations

- Thompson, J., **Sedinger, B.**, Daniels, B. An assessment of factors influencing nest survival of emperor geese on Yukon Delta National Wildlife Refuge, Alaska. The Wildlife Society Meeting, Virtual conference, WI, September 2020.
- Schmidt, K., Straub, J., **Sedinger, B.**, Winter, S. Linking long term resource monitoring vegetation data with bioenergetics needs of waterfowl to inform wildlife habitat management. The Wildlife Society Meeting, Virtual conference, WI, September 2020.
- Schmidt, K., Straub, J., **Sedinger, B.**, Winter, S. Linking long term resource monitoring vegetation data with bioenergetics needs of waterfowl to inform wildlife habitat management. The Wildlife Society Wisconsin Chapter Meeting, Wisconsin Rapids, WI, February 2020.
- **Sedinger, B.**, Riecke, T., Sedinger, J., Rohwer, F., Williams, P. Mallard mortality within and among seasons. Atlantic Flyway Winter Meeting, Portsmouth, NH, February 2020.
- Riecke, T., Williams, P., Behnke, T., Gibson, D., Leach, A., **Sedinger, B.**, Street, P., Sedinger, J. Harvest management of mallards. Atlantic Flyway Winter Meeting, Portsmouth, NH, February 2020.
- Womble, J., Williams, P., McNabb, R., Prakash, A., Gens, R., **Sedinger, B.**, Acevedo, C. Assessing seasonal and annual changes in glacier ice habitat for harbor seals in tidewater glacier fjord in Glacier Bay National Park, Alaska. AGU Ocean Sciences Meeting, San Diego, CA, February 2020.

Ben Sedinger, Ph.D.

Delta Waterfowl Learn-to-Hunt

Ben Sedinger coordinated a Learn-to-Hunt Waterfowl event with Delta Waterfowl held in September 2020. The Learn-to-Hunt Waterfowl program is designed for beginners: people with little or no experience using firearms, hunting, or identifying waterfowl. Four graduate students, one UW-Stevens Point faculty member and his son, and one WCW staff member, Jennifer Summers, participated. Participants were trained on Hunter Safety with Wisconsin Department of Natural Resources staff to earn small-game hunting licenses. They gained hands-on experience handling, loading, and shooting shotguns by shooting at clay targets followed by a barbecue featuring waterfowl recipes.



Jordan Thompson and Hannah Butkiewicz ready for their first duck hunt

The experience culminated in a waterfowl hunt with a Delta Waterfowl guide where participants were led on a hunt, specifically hunting for ducks. Participants were broken into several small groups, two new hunters per guide. Several new hunters were successful with bagging a few ducks and having a good time.



Learn-to-Hunt Waterfowl participants learning to safely handle and load (dummy) firearms at a Hunter Safety course at UW-Stevens Point.



Jason Riddle, his son, and their waterfowl hunting guide and his dog, with the wood ducks they harvested during a Learn-to-Hunt guided hunt.

WCW Primaries - Cady Sartini, Ph.D.

Cady Sartini joined the WCW in 2019, though she has served as a full-time assistant professor since 2015. She teaches several courses at UW-Stevens Point and leads the UW-Stevens Point Wisconsin Black Bear Research Project, which is a long-term project that has been on-going for over 30 years.



Awards

- CNR Outstanding Teacher (student selection)- UW-Stevens Point

Grants

- Doug Stephens Boone & Crockett Research Fellowship - \$8,000
- National Wildlife Center Research Center - \$10,500

Teaching and Advising

Courses Taught

- Natural Resources 151 - People, Resources, and the Biosphere
- Wildlife 150 - Living with Wildlife
- Wildlife 305 - Black Bear Ecology and Management
- Wildlife 365 - Behavioral Ecology
- Wildlife 450 - Human Dimensions of Wildlife

Students Advised

- 33 undergraduates
- Nathan Kluge (Graduate Assistant)
- Matthew Hanneman (Graduate Assistant)
- Tommy Young - Boone and Crockett Research Fellow

Cady Sartini, Ph.D.

Publications

- Netherton, H.K., M.J. Rader, S.M. Crimmins, B.K. Lackey, and **C. Sartini**. Global trends in attitudes towards bears and their management: a systematic review. Submitted 2020 to *Ursus*
- Kamps, A. J., S. A. Dubay, C. N. Jacques, and **C. E. Sartini**. In prep. Habitat associations of parvovirus exposure in coyotes (*Canis latrans*) and raccoons (*Procyon lotor*) in urban southern Wisconsin. Submitted 2020 to PLOS ONE.
- Netherton, H.K., M.J. Rader, S.M. Crimmins, B.K. Lackey, and **C. Sartini**. Situational and demographic impacts on university student attitudes towards bears and their management. Re-Submitted 2020 to *Human Dimensions of Wildlife*.
- **Sartini, C.E.**, and G. Yarrow. In prep. Save a deer, kill a coyote? Semantics, ecology and management in the Southeastern United States. Targeted for: *Wildlife Society Bulletin*
- **Sartini, C.E.**, P. Gerard, and G. Yarrow. In prep. Raccoon spatial response to artificial increases in coyote activity. Targeted for: *Journal of Wildlife Management*.
- **Sartini, C.E.**, P. Gerard, and G. Yarrow. Behavioral responses of raccoons exposed to varying degrees of threat posed by predator scat. Targeted for: *Journal of Wildlife Management*. In prep.

Presentations

Mentored:

- Skalitsky, A.M., J. Bergstrand, Q.A. Erdmann, S.D. Andres, D. Ruka, and H. Walkush. 2020. Post-release movement and behavior of rehabilitated orphan black bears. Student Research Symposium, College of Natural Resources, Stevens Point, Wisconsin.
- Biegel, B.J., N.J. Weisenbeck, J.D. Kivett, E.C. Peterson, and S. Sodke. 2020. Habitat selection modelling for fisher (*Pekania pennanti*) in central Wisconsin using home range data collected by VHF collars. Student Research Symposium, College of Natural Resources, Stevens Point, Wisconsin.

Professional Organizations

- Association for Women in Science - Member
- The Wildlife Society - Member

Wisconsin Black Bear Project 2020

Cady Sartini began leading the Wisconsin Black Bear project, a long-term research project, in 2019. The project began in the mid-1980s in the College of Natural Resources. Over the years, the project has produced 10 masters' theses which have contributed greatly to the understanding of black bear ecology in Wisconsin. Numerous undergraduate students have witnessed and gained hands-on experience with safe and humane capture, anesthetization, collaring and tagging of black bears, and have also gained experience with radio-telemetry.



Graduate student Nathan Kluge and other researchers take measurements of an anesthetized young black bear

Largely educational, this project provides opportunities for student research projects in collaboration with the WDNR. The objective is to collect long-term data on bear cub production and survival for the state of Wisconsin. Currently, UW-Stevens Point maintains 12 to 20 collared female black bears in Clam Lake, WI, and the Chequamegon National Forest.

Each year, Cady and a team of other professionals and students visit the collared bears while they are hibernating. The bears are anesthetized, measured, weighed, and have their collars replaced or adjusted if necessary. The cubs or yearlings are also counted, weighed, and measured.



Cady Sartini with a black bear cub

In 2020 one new female bear was collared and five bears were re-collared. One bear's collar stopped working and one bear died. The cause of mortality is unknown.



Cady, students, and fellow researchers process a female black bear for the Wisconsin Black Bear Research Project

Support WCW

Thank you for reading the WCW 2020 Annual Report. If you enjoyed what you see here and would like more information, be sure to check out our website at www.uwsp.edu/WCW

We welcome opportunities to collaborate and develop educational wildlife materials and events.

We also welcome your questions about wildlife!

The activities of the WCW are largely funded by generous endowments. To support the work of the Center, consider contributing financially to the UW-Stevens Point Foundation. Your contributions help us in day-to-day operations or you can specify a program, project, scholarship, travel fund, or other need. Thank you for your generous support.

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