

BOONE AND CROCKETT CLUB  
UNIVERSITY PROGRAMS  
ANNUAL REPORT  
2019



# THE BOONE AND CROCKETT CLUB

It is the mission of the Boone and Crockett Club to promote the conservation and management of wildlife, especially big game and its habitat, to preserve and encourage hunting, and to maintain the highest ethical standards of fair chase and sportsmanship in North America.

The Boone and Crockett Club's University Programs help serve this mission by attracting the brightest students to the strongest universities to work with the foremost wildlife faculty.

Our Boone and Crockett Fellows are engaged in more than 20 research projects focused specifically on big game species, and an equal number of studies designed to improve habitat management. We offer them opportunities to see the value of hunting both in the classroom and afield. They leave the program with a deep understanding of the Club's legacy and its values, ready to tackle the big issues facing wildlife conservation today.



## BOONE AND CROCKETT UNIVERSITY PROGRAMS

Clemson University (in development)  
Michigan State University  
Mississippi State University (inactive)  
Oregon State University (inactive)  
Texas A&M University  
Texas A&M University-Kingsville  
University of Montana  
University of Wisconsin-Stevens Point



ABOVE: Clemson students after a successful hunt.  
TOP RIGHT: University of Montana student conducting fieldwork on the Theodore Roosevelt Memorial Ranch.  
BOTTOM RIGHT: B&C Fellow Lauren Snobl working with Big Game Records Director Justin Spring at the 30th Big Game Awards Judges Panel.

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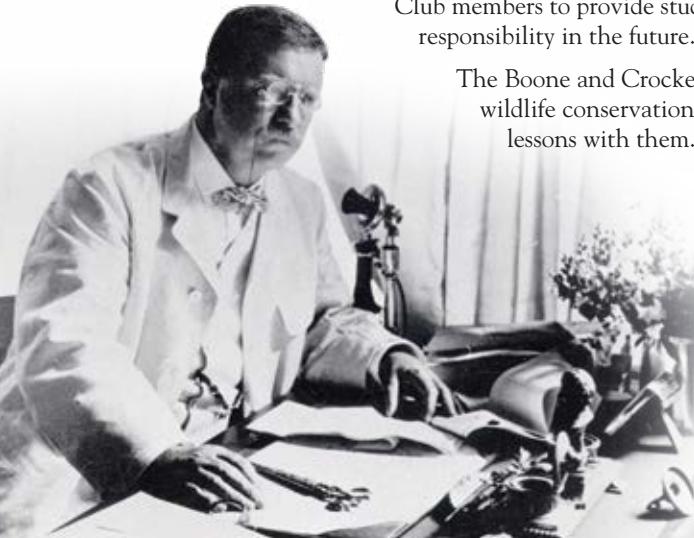


# WELCOME

Welcome to the Annual Report of the Boone and Crockett Club's University Programs. We are delighted to report that our efforts over the past four years to raise the profile of the Club with bright young students who share an intense passion for wildlife have been met with extraordinary success. Through events at the annual meeting of The Wildlife Society, the Club is now getting its message in front of undergraduate student leaders who are enrolled in wildlife programs across the country. We have created new opportunities for our Boone and Crockett fellows to interact with regular and professional Club members at the North American Wildlife and Natural Resources Conference. And we are now regularly sending a fellow to the Annual Meeting of the Boone and Crockett Club to share the excitement of their research. All of this helps the Club better understand the students who will be the leaders in wildlife conservation in the coming decades, and helps the students understand those leaders in our generation who created such a remarkable wildlife legacy.

Equally important, we have successfully realigned the investment in University Programs with the mission of the Club. Our research and teaching emphasize science that informs policy, especially on big issues facing game species and habitat management. We make communication skills prominent in every program to help young people convey the science they have learned to the wide array of audiences that comprise wildlife conservation today. Finally, we draw from the experiences of professional and regular Club members to provide students with the cornerstones of leadership that will carry them into positions of responsibility in the future.

The Boone and Crockett fellows we are engaging through our University Programs are the future of wildlife conservation. Nothing is more important than sharing our passion, our values, and our life lessons with them.

A black and white photograph of William F. Porter, a man with glasses and a bow tie, sitting at a desk with papers and a typewriter.

William F. Porter

William F. Porter  
University Programs, Deputy Chairperson

*"Of all the questions which can come before this nation...there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us."*

Theodore Roosevelt - Message to Congress, December 1907

## 2019 AT A GLANCE

### 4 GRADUATES



From Boone and Crockett University Programs

### FELLOWS

#### UNDERGRADUATE



#### MASTERS



#### PHD



#### POSTDOCTORAL



37

\$6,100,000+

Total funding for research activities

### 3 ENDOWED PROFESSORS



21

AWARDS FOR EXCELLENCE

31

SCHOLARLY PUBLICATIONS

4

POPULAR ARTICLES

25

INVITED TALKS

84

RESEARCH PRESENTATIONS

7

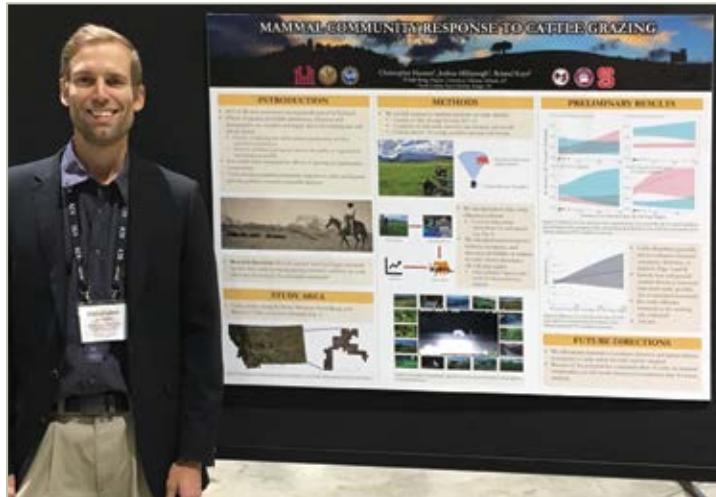
COURSES TAUGHT

# 2019 UNIVERSITY PROGRAMS EVENTS



The Boone and Crockett Club played an important role in the annual Wildlife Society Conference this year, which was held from September 29 through October 3 in Reno, Nevada. The annual conference is the largest gathering of wildlife professionals and students in the U.S. This year, the Boone and Crockett Club was the first partner of the Student Connections Initiative, a new program just launched by The Wildlife Society. This initiative is designed to create valuable information and engagement opportunities with partners who have a strong commitment to assisting future wildlife professionals. Because of the Club's support, student membership dues are reduced by \$5 for each student over the next year. The Club will also be a sponsor of a weekly newsletter aimed at student and early career professionals.

In addition to undergraduate student activities, the Club's University Programs had a number of important events. The Club was well-represented by our fellows who offered nearly two dozen posters and talks in various symposia. Several important sessions, including one titled "Challenges of Balancing Stakeholder Engagement and Scientific Decision-Making to Inform Wildlife Policy" which was organized by our program at Michigan State University, were well received. Speakers from this session and Boone and Crockett fellows participated in a Club sponsored luncheon. There were 25 fellows in attendance at the luncheon in addition to many professional members. Dr. Evelyn Merrill provided an excellent talk at the fellows' luncheon about the important role of personal relationships in professional careers. Club sponsored events ended with a social networking event for our fellows and professional members. We received a tremendous amount of positive feedback from general conference attendees, students, and our fellows about the important role the Club played in the conference!



ABOVE: B&C Fellow Christopher Hansen with his poster on Mammal Community Response to Cattle Grazing. The trailcam photos he analyzed were taken at the Club's Theodore Roosevelt Memorial Ranch in Dupuyer, Montana. FAR LEFT: Wini Kessler introduced Professional Member Evelyn Merrill as the presenter at the luncheon. Evelyn shared her insights about the challenges for couples and their relationships around dual careers and professions. LEFT: Professors and Fellows were able to network and share stories with B&C Professional Members at the University Programs Fellows luncheon. BELOW: A group photo of the Boone and Crockett Fellows in attendance.



**RIGHT:** The Boone and Crockett Fellows hosted Boone and Crockett regular member James Cummins for a webinar this fall. James shared background about the Club, its history, and its role in wildlife conservation and policy. Feedback from the fellows was universally positive, with several of them noting that they appreciated the opportunity to learn more about the work that the Club is doing in Washington, DC, right now to advance wildlife conservation.



At the Boone and Crockett Club 2019 Spring meeting, held March 6-7, 2019, in conjunction with the Wildlife Management Institute's 84th North American Wildlife and Natural Resources Conference in Denver, Colorado, three of our Boone and Crockett Fellows presented their research findings at the luncheon on Thursday, March 7.

**BELOW:** A group photo of the presenting B&C Fellows along with their advisors at the Boone and Crockett Club Spring meeting.

**LEFT TO RIGHT:** Professional Member and Texas A&M University-Kingsville Professor David Hewitt, B&C Fellow Levi Heffelfinger, Associate Director of the Boone and Crockett Quantitative Wildlife Center at Michigan State University David Williams, B&C Fellow Jonathan Cook, University of Wisconsin-Stevens Point Faculty Mentor Jason Riddle, and B&C Fellow Megan Brown.



**Frustration and Intrigue: Hunter Acceptance of Information Regarding Chronic Wasting Disease.**  
Bronson Strickland, Kevin Hunt



**ABOVE:** Professional Members Jim Heffelfinger (middle), Bronson Strickland (bottom) and Michigan State Associate Director of the Boone and Crockett Quantitative Wildlife Center, David Williams (top), presented at the B&C sponsored symposium titled **Challenges of Balancing Stakeholder Engagement and Scientific Decision-making to Inform Wildlife Policy.**

In December 2018 at the Annual Meeting, two Boone and Crockett Fellows presented their research to enable Club Members and B&C Fellows to get to know one another and share their values. Vaughan Branch, from the University of Montana, presented his research titled *State and Federal Wildlife Agencies: Management Authority on Federal Lands and Effective Collaboration on Habitat Connectivity* to the members during a luncheon. Rebecca Cain (left), from Michigan State, presented her research to the Records Committee examining spatial and temporal patterns in the distribution of older age class and record-quality bucks harvested in the Midwest. Results will be used to inform managers about the influence of harvest regulations and hunting traditions on characteristics of record book whitetail deer.



# IMPACTS OF UNIVERSITY PROGRAMS



What was once a set of independent Boone and Crockett professorship and fellowship programs has quickly become a coordinated team. Together with Club leadership and university administrators, we are developing a common set of goals that will stitch together the universities and the Club into the fabric of a powerful organization.

University of Montana PhD student and Boone and Crockett Fellow Chris Hansen was profiled in 30 sec and 1 min videos that were played at all UM home football games (on the jumbotron at the stadium) and on television. The video highlighted his research being conducted at the Theodore Roosevelt Memorial Ranch.

*“Growing up, I was exposed to hunting and wildlife management through my father; however, my knowledge of the Boone and Crockett Club was limited to the Big Game Records. I didn’t realize how involved the Club was in the North American Model of Wildlife Conservation until I became a Boone and Crockett Fellow. As a life-long hunter and angler, I am proud to be part of the Boone and Crockett Club’s University Programs.”* - Dan Thompson

*“As someone who has studied conservation history, I admired the Boone and Crockett Club for what they had done in the Teddy Roosevelt era. It is a special honor for me to be linked to that legacy and to be a part of what the Boone and Crockett Club is doing today to conserve our wildlife heritage for tomorrow.”* - Chris Hoving

UM Sustainability Spotlight: Chris ...

0:36 / 1:00

YouTube

*“The opportunity to be a Boone and Crockett Fellow has opened doors both professionally and personally for me. The connections I have made and am still making will continue to be invaluable for the entirety of my career. Boone and Crockett University Programs are truly an amazing experience for up and coming wildlife professionals.”* - Levi Heffelfinger

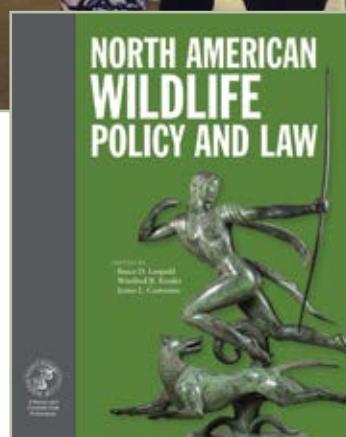
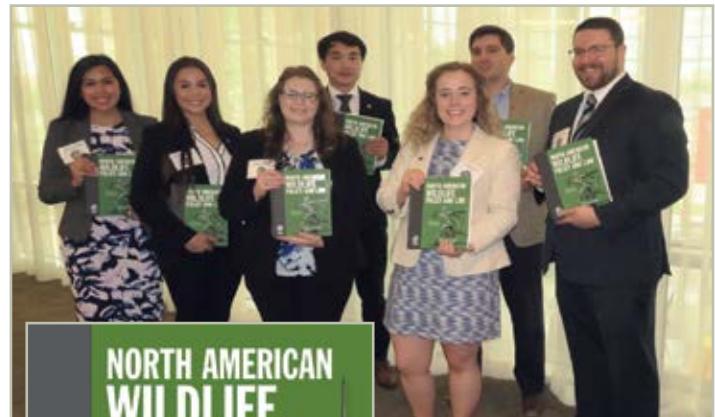
*“The Boone and Crockett University Programs offers students a rare opportunity – the chance to network and share research directly with engaged leaders of a major conservation organization. I am proud to be a Boone and Crockett Fellow and excited to continue working with the Club to address some of the most challenging wildlife conservation issues.”* - Jon Cook

## NORTH AMERICAN WILDLIFE POLICY AND LAW

A basic understanding of wildlife law and policy is essential knowledge for anyone who aspires to work in wildlife management and other natural resource fields. The Boone and Crockett Club is pleased to have recently published a book, *North American Wildlife Policy and Law*, for anyone interested in natural resource management, public policy, or environmental law.

The book begins by examining the need for, and history of, wildlife policy and law; wildlife and gun ownership; wildlife law enforcement; constitutional authorities and jurisdictions; how laws and policies are made; statutory law and agency rule-making; relationships of Indigenous peoples to natural resources; and subsistence resource use. Building on this foundation are detailed sections addressing:

- The North American Model of Wildlife Conservation
  - Jurisdictions in the U.S., Canada, and Mexico with detailed coverage of key federal laws
  - The roles of state and provincial agencies, Native American tribes, and conservation organizations
  - International wildlife conservation
  - Policy jobs in conservation
  - Roles of politics, professionals, and the public
- Edited by:
- Bruce D. Leopold
  - Winifred B. Kessler
  - James L. Cummins



Policy capstone class at Texas A&M with the B&C textbook, *North American Wildlife Policy and Law*. The class presented the results of their study on expanding funding for conservation in Texas to match the federal expansion of the Pittman Robertson Fund in Recovering America's Wildlife Act.

# FOSTERING TOMORROW'S CONSERVATION LEADERS

I have often shared with my Boone and Crockett Club colleagues my belief that our university programs are and will continue to be one of the Club's greatest legacies. Certainly, that opinion is widely held as university programs represent the single-largest investment in the Club's history, continually attracting the brightest young people to the strongest universities to work with the foremost wildlife faculty. Year in and year out, our university programs offer education and professional development opportunities that prepare future scientists, decision-makers, and leaders to effectively address the enormous challenges facing wildlife conservation. These efforts, coupled with our involvement in the National Conservation Leadership Institute and our educational programs at the Rasmuson Wildlife Conservation Center on the Theodore Roosevelt Memorial Ranch, help ensure the development of highly capable and effective future leaders in the conservation community.

The Club's past is replete with examples of recognizing a need and then facilitating change not only with laws or regulations, but also in the attitudes and beliefs of the American people. Our founder, Theodore Roosevelt, along with other key Club members, championed the passage of laws, the establishment of institutions, and the designation of wildlands, which today make up our nation's conservation system. In addition, their successors created and implemented the incredibly successful North American Model of Wildlife Conservation.

The creation and development of our university programs are a sterling example of our members championing a cause based on a clear need within the conservation community. Almost 30 years ago, forward-thinking men and women funded an endowed chair at the University of Montana with the intent of developing a program designed to transmit science-based knowledge from seasoned wildlife professionals and educators to college students in the wildlife field. The goal has been to prepare graduates for the responsible and wise management of wildlife and habitat in the future and become engaged in formulating policy at the state and federal levels.

Today, in addition to the University of Montana, we have endowed chairs at Michigan State University and Texas A&M University as well as fellowship programs at Mississippi State University, Texas A&M University-Kingsville, Oregon State University and the University of Wisconsin-Stevens Point. Club members are working diligently to develop and fund additional programs at the University of Georgia and Clemson University.

Responding to the desire of our membership to ensure a future where we remain a leader in shaping conservation policy, Texas A&M University is in the process of establishing a dual-degree program, wherein students can earn a bachelor's degree in Wildlife and Fisheries Science and a master's degree in Public Policy over the course of five years. These multidisciplinary programs are effective in producing students, and thus future natural resource professionals, who think more broadly and strategically about complex, albeit connected, issues at hand.

To aid students in learning about conservation policy, the Club recently published *North American Wildlife Policy and Law*, a comprehensive textbook that thoroughly examines the history and foundation of policy related to our wildlife. It also reviews and analyzes major federal, state, and provincial laws and policies important to natural resource management. This unique and award-winning textbook has been hailed as the definitive volume on wildlife law and policy development and was edited and primarily written by Boone and Crockett Club Regular and Professional Members.

To provide practical policy experience for our future leaders, past Club President Bill Demmer established the Demmer Scholars Program in 2009 at Michigan State University. Since its inception, almost 250 Demmer Scholars have been selected through a competitive process and placed in paid natural resource policy internships with the federal government, nongovernmental organizations, and trade associations. Today, over 60 scholars from the Demmer Program who have completed their academic studies have relocated to Washington, D.C., to begin or continue their careers in government or the private sector.

In 2005, the Club—along with other similarly-focused organizations—recognized that, as the baby-boomer generation matured, leaders of state and federal wildlife and habitat management agencies were retiring at an alarming rate. To help prepare new leadership, the Club assisted in the establishment of the National Conservation Leadership Institute. Its mission, in part, is “to preserve the legacy of our natural resources by developing extraordinary conservation leadership.” The institute offers a unique curriculum that challenges assumptions, piques critical thinking, fosters higher-trust relationships, and strengthens confidence. The program is so highly regarded that, in recent years, individuals from the oil, manufacturing, and forestry industries have asked to participate. Today, alumni include over 450 conservation professionals who work for a wide array of state and federal agencies, nongovernmental

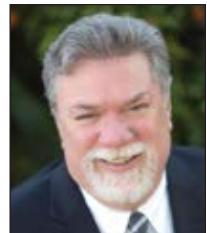
organizations and in several diverse industries. Some of the alumni are Boone and Crockett Club Professional Members.

Of course, the best time to inspire a lifelong appreciation for wild places and wild things, as well as teach a lasting conservation ethic and learn about our hunting heritage, is to start when individuals are young. And that is exactly what transpires at the Rasmuson Wildlife Conservation Center on the Theodore Roosevelt Memorial Ranch. Our educational programs at the ranch reach over 2,500 people each year, with many children and teenagers experiencing wilderness and wildlife for the first time. Some of these programs include: Montana High Adventure Base for Boy Scouts, Women's Hunter Education, Outdoor Adventure Camps, and Learn 2 Hunt: Hunting for Sustainability.

Finally, the Boone and Crockett Fellows Program is a shining example of how the Club is cultivating tomorrow's conservation leaders. The program continues a rich history of successfully training the scientists, managers, biologists, and policymakers of tomorrow. The program currently has 35 fellows throughout the nation and an additional 66 former fellows who are now becoming leaders in the wildlife profession and the broader conservation community. I have had the good fortune to meet and visit with many of our Boone and Crockett Club Fellows and graduates as well as many alumni from the National Conservation Leadership Institute. They represent incredibly capable young people and exceedingly skilled conservation professionals who will guide current and future conservation policy based on sound science and best management practices. The future of conservation in North America is in good hands.

## STAY UP TO DATE WITH UNIVERSITY PROGRAMS IN FAIR CHASE MAGAZINE

Each issue of *Fair Chase* magazine includes an update from our University Programs. Individual schools, projects, and students are profiled as a way to inform our readership on current University Program happenings.



Mr. Timothy C. Brady  
Boone and Crockett  
Club President

Reprint of *From the President* column in the Fall 2019 issue of *Fair Chase* magazine.





Dr. William Porter

## MICHIGAN STATE UNIVERSITY BOONE AND CROCKETT PROGRAM

With roots in the northern hardwood forests, Great Lakes, and agricultural ecosystems of the upper Midwest, Michigan State University (MSU) is home to one of the premier fisheries and wildlife programs in the nation. The Boone and Crockett Professorship Program at MSU was established to educate bright individuals with a deep passion for wildlife conservation. Central to the program is the Boone and Crockett Quantitative Wildlife Center (QWC), where research focuses on four game-changing issues: land-use change, shifting climate patterns, emerging wildlife diseases, and sustainable management of wildlife. Our Boone and Crockett Fellows have a mind for math and science and the drive to be leaders in the natural resources arena. We encourage them in creative, innovative problem-solving and emphasize educational experiences that prepare them for a seat at the table where the big decisions about wildlife conservation are being made.

### POLICY IMPACT

Drs. Sonja Christensen and David Williams have partnered with the Michigan DNR to evaluate whether antler point restrictions can influence deer population abundance and sex or age composition in an area where CWD has been detected. Results will be presented to the Michigan Natural Resource Commission to inform future wildlife management policies related to CWD control and harvest regulations.



TOP: B&C Fellow Jonathan Trudeau (second from right) and the MSU deer crew placing a GPS collar on a white-tailed deer within Michigan's CWD Management Zone. BOTTOM: American woodcock chick fitted with a necklace transmitter. B&C Fellow Ashley Huinker is using this technology to study how woodcock select suitable habitat.



### BOONE AND CROCKETT FELLOW JONATHAN COOK



Jon's passion for wildlife comes from his childhood experience in rural, northeastern Ohio. Most of his early life was spent in the woods hunting, fishing, and interacting with any wild organism he came across. Jon received bachelor's and Master's degrees from UC Davis, where he studied wetland restoration for endangered aquatic species. Jon's doctoral work at MSU focuses on developing new methods that use limited information to quickly predict the extent and future spread of chronic wasting disease. Upon completion of his doctoral program, he plans to pursue a career in state or federal natural resources management with a focus on wildlife conservation. In his free time, Jon enjoys exploring the natural beauty of Michigan with his wife and young daughter.

### FUNDING SOURCES

- MSU Boone and Crockett Endowment
- Michigan Department of Natural Resources
- The Hal and Jean Glassen Memorial Foundation
- MSU College of Agriculture and Natural Resources
- MSU Extension
- MSU AgBioResearch

# UNIVERSITY OF MONTANA



Dr. Joshua Millspaugh

## UNIVERSITY OF MONTANA BOONE AND CROCKETT PROGRAM

Long known for its exceptional big game research, the University of Montana hosted the original Boone and Crockett Professor, beginning in 1992. The Boone and Crockett Professorship Program at Montana is focused primarily on the integration of wildlife conservation and land management. Our program addresses society's most significant wildlife and natural resource challenges through relevant and high-caliber research and teaching.

The Program prepares future conservation leaders through science-based instruction that promotes wise stewardship, application of the best available science, and informed policy decisions. A key component of the research-teaching effort is centered on the Club's Theodore Roosevelt Memorial Ranch and the Elmer E. Rasmuson Wildlife Conservation Center near Dupuyer, Montana. The 6,000-acre working cattle ranch and the Center are adjacent to the Lewis and Clark National Forest along the Rocky Mountain Front.

### BOONE AND CROCKETT FELLOW ELLEN PERO



Growing up, Ellen spent summers on the lake and in the woods of Michigan, developing an eagerness to spend her life working with and for the natural world. She received her bachelor's degree in Fisheries and Wildlife from Michigan State University and her Master's degree from University of Manitoba, where she studied the behavioral ecology of a threatened ground squirrel. At University of Montana, Ellen is focusing on how elk population dynamics, physiological stress, movement and resource selection, and reproductive behavior interact and progress following reintroduction to a new landscape. Ellen aims to obtain a research biologist position with a state or federal agency where her work can inform wildlife management, conservation, and policy.

### POLICY IMPACT

After reviewing preliminary results from Boone and Crockett fellow Jessica Krohner's fisher survey work, Montana's Cabinet Fisher Management Unit closed its harvest of fishers for the 2019/2020 trapping season.



TOP: B&C Fellows placing a radiocollar on an elk. BOTTOM: University of Montana students and B&C Fellows exploring the Theodore Roosevelt Memorial Ranch.



### FUNDING SOURCES

- UM Boone and Crockett Endowment
- National Science Foundation
- Rocky Mountain Elk Foundation
- North Dakota Game and Fish Department
- Missouri Department of Conservation
- US Bureau of Land Management
- US Forest Service
- South Dakota Department of Game, Fish, and Parks
- Montana Fish, Wildlife, and Parks
- Wyoming Game and Fish Department
- Idaho Fish and Game
- National Park Service
- Nevada Department of Wildlife



## TEXAS A&M UNIVERSITY BOONE AND CROCKETT PROGRAM

The mission of the Boone and Crockett Program at Texas A&M is to build a pipeline between scientists and policymakers in wildlife conservation. The program connects science to policy issues by preparing scientists to work with policymakers and also connects policy with science by preparing policy professionals to work with scientists on issues of conservation and management of wildlife. Dr. Perry Barboza serves as a Professor and Boone & Crockett Chair of Wildlife Conservation and Policy. Dr. Barboza works directly with members of the Boone & Crockett Club and other donors to guide the Wildlife Science to Policy program. Dr. Barboza works with both undergraduates (B.S.) and graduates (M.S. & Ph.D.) in the wildlife sciences as well as graduates (MPSA) at the Bush School by teaching courses and workshops and mentoring research.

Dr. Perry Barboza

### POLICY IMPACT

The Department of Wildlife and Fisheries Sciences at Texas A&M began a five year program with the Bush School of Government and Public Service to bridge the Bachelor of Science Degree in wildlife with a Master's degree in Public Service and Administration.

<https://wfsc.tamu.edu/drredduke/>



ABOVE: New B&C Fellow Bridgett Downs has started work on studying insects that harass moose. BELOW: Kaylee worked with hunters to sample 305 deer over her three year study.



### BOONE AND CROCKETT FELLOW KAYLEE HOLLINGSWORTH



Kaylee is originally from Guthrie, Oklahoma, where she was raised on a small working ranch outside of town. She grew up working and playing outside and had an interest in science from an early age. Kaylee earned her bachelor's degree in biological sciences at Oklahoma State University. She is pursuing a Master's degree in Wildlife and Fisheries Sciences with a focus on nutrition at Texas A&M. Her work explores the effects of trace minerals on density dependence of wild herbivore populations. With the support and encouragement of her colleagues, Kaylee recently took up hunting and hopes to share her new found passion with others in the future.

### FUNDING SOURCES

- Alaska Department of Fish and Game
- Sid Kyle Endowment at Texas A&M
- Rob and Bessie Welder Wildlife Foundation
- National Institute of Food and Agriculture
- Dr. Red Duke Boone and Crockett Wildlife Conservation and Policy Program at Texas A&M

## TEXAS A&M UNIVERSITY - KINGSVILLE BOONE AND CROCKETT PROGRAM

The Boone and Crockett Fellowship in Ungulate Research at Texas A&M University-Kingsville (TAMUK) was funded by B&C regular members from Texas and supports a graduate student studying big game in Texas. The TAMUK wildlife program has 180 undergraduate and 50 graduate students who learn about range and wildlife management in the southwestern US. These students work with the program's 23 scientists to study wildlife ecology and management, focusing on applied studies that address challenges confronting wildlife biologists. TAMUK has nationally recognized research programs in big game, upland gamebirds, wild cats, waterfowl and wetland birds, and habitat restoration. A unique aspect of TAMUK's wildlife program is the Caesar Kleberg Wildlife Research Institute (CKWRI), a privately funded entity that supports wildlife research at the university. The CKWRI ensures faculty and students have the finest research facilities, including GIS, molecular ecology, necropsy, and forage analysis labs as well as facilities to work with captive ungulates and birds. TAMUK's vigorous wildlife research programs provide students innumerable opportunities for hands-on experience in a wide variety of research activities. Finally, TAMUK wildlife students understand the critical role of private landowners in wildlife conservation. Graduates take this conservation ethic with them when they are hired by state and federal agencies, non-governmental organizations, and landowners.

### BOONE AND CROCKETT FELLOW LEVI HEFFELINGER



Levi grew up with an early influence in wildlife science in southern Arizona. From a young age, he accompanied his dad on wildlife surveys and captures. Being an avid hunter, his appreciation for the outdoors has driven his love for wildlife research. Levi earned his bachelor's degree from the University of Arizona and his Master's degree from University of Nevada, Reno, where he worked with mule deer movement and demographics in the Mojave Desert. Levi's doctoral work focuses on the influence of fragmented landscapes (energy and agricultural development) on mule deer movement and population performance. In the future, he hopes to work at the interface of management and research of large game animals.

### POLICY IMPACT

Because of our research on mule deer movements and density, the state wildlife agency changed the approach they were considering to study chronic wasting disease in the Texas Panhandle.



### FUNDING SOURCES

- Boone and Crockett Club
- Texas Parks and Wildlife Department
- Mule Deer Foundation



# UNIVERSITY OF WISCONSIN - STEVENS POINT



## UNIVERSITY OF WISCONSIN - STEVENS POINT BOONE AND CROCKETT PROGRAM

Since 2012, the University of Wisconsin-Stevens Point has offered the Douglas R. Stephens Boone and Crockett Club Fellowship in Wildlife Conservation, awarded to undergraduate students who display academic excellence and are interested in gaining a background in wildlife conservation and leadership skills. The faculty-mentored student research fellowships further the mission of Boone and Crockett Club and advance the educational, research, and outreach mission of the College of Natural Resources. The fellowship program is led by Dr. Christine Thomas, Dean, and Steve Menzel, Senior Director of Development. UWSP's Wildlife Ecology program has over 300 undergraduate majors and seven fulltime faculty members. The program emphasizes undergraduate teaching and incorporates research in areas such as conservation biology, avian ecology, predator ecology, wetland ecology, wildlife health, population dynamics, wildlife damage management, and habitat management. Practical, hands-on experience inside and outside the classroom is a cornerstone of the program. Undergraduate courses focus on the problem-solving and scientific skills needed to understand the ecological interactions affecting wildlife management, including game, non-game, endangered, and invasive species. Graduates of the Wildlife Ecology and Management program are academically qualified to become Certified Wildlife Biologists. UWSP's Wildlife Society Student Chapter is consistently among the best in the nation.

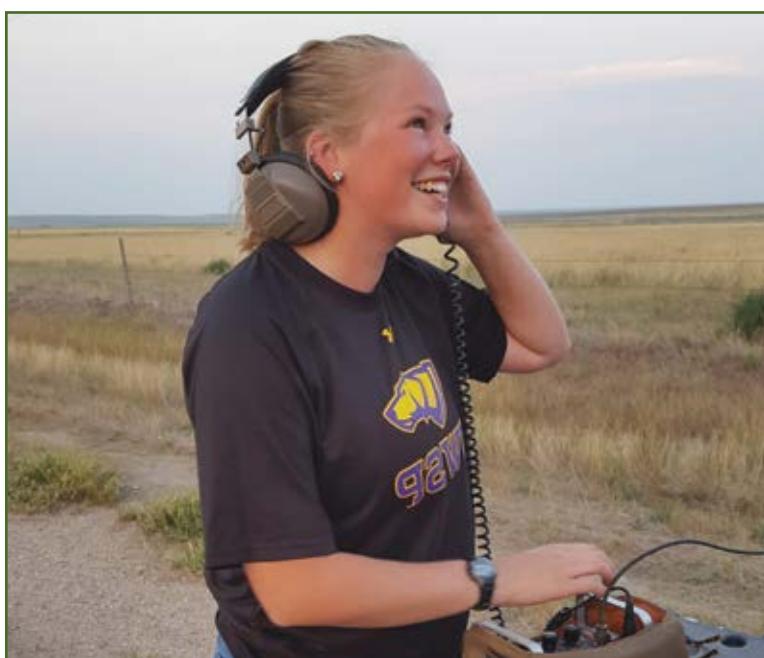


ABOVE: B.S. student Megan Brown conducting field work on ringed-billed ducks at Necedah National Wildlife Refuge. BELOW: B.S. student Sabrina Claeys tracking swift foxes within a black-footed ferret recovery area in western Kansas. Her research results will be used to inform management and recovery decisions for two species of conservation concern.

### BOONE AND CROCKETT FELLOW MEGAN BROWN



Megan recently completed her bachelor's degree in Wildlife Ecology Research and Management at University of Wisconsin-Stevens Point. While at Stevens Point, she developed a strong interest in avian ecology and conservation. As a recipient of the Boone and Crockett Fellowship at UW- Stevens Point, Megan conducted an undergraduate research project focused on secretive marsh birds, including American bittern, Virginia rail, and sora, and their impact on water management. Following completion of her degree, she worked as a drone pilot for Wisconsin Department of Natural Resources before accepting a biologist position with Pheasants Forever. After gaining experience in the workforce, Megan plans to pursue her Master's degree in a natural resources field.



### FUNDING SOURCES

- Douglas R. Stephens Boone and Crockett Club Wildlife Research Fellowship Endowment
- Douglas R. Stephens Wildlife Research Fellowship Endowment - Stephens Family Fund

## CLEMSON UNIVERSITY BOONE AND CROCKETT PROGRAM

In partnership with the Boone and Crockett Club, Clemson University is in the process of establishing a Distinguished Professorship in Wildlife Conservation. This newly endowed program will focus on coordinating outreach, teaching, and applied research efforts to enhance and promote game species management and wildlife conservation on private lands. This not only meets a regional need (90 percent of land and wildlife habitat in the Southeast is privately owned), but addresses a growing priority for advancing big game management globally.

Clemson has a long history of exceptional teaching, research, and outreach programs in applied wildlife management and conservation. Students seek out our wildlife program because of our reputation for getting students hands-on experience outdoors, and providing the critical thinking and problem-solving skill sets needed to address current game management problems. In the southeastern US, our faculty are conducting cutting edge wildlife research on key issues related to white-tailed deer management, particularly as it relates to their interaction with coyotes and invasive wild pigs. In the western United States, Clemson researchers are attempting to use science to help address controversial issues surrounding the restoration of bison to private and federal rangelands where domestic cattle currently graze. Further, our research impact spans globally, with active major wildlife research focal areas in South Africa, India, and the western United States.

## CLEMSON'S M.S. PROGRAM FOR WILDLIFE PROFESSIONALS

Clemson developed a special online M.S. in Wildlife and Fisheries Biology degree program to educate and train natural resources professionals who are currently in the field, as well as non-traditional students who are in natural resources-related positions or working in the policy arena. Currently there are 75 students enrolled in the program from across the country. For more information please visit:

<https://www.clemson.edu/online/programs/wildlife-fisheries-biology.html>



ABOVE: PhD student Mike Muthersbaugh holding a white-tailed deer fawn fitted with a GPS tracking collar as part of a study on causes of fawn mortality on private lands in South Carolina. LEFT: MS student Sze Wing Yu studying the vegetation response to bison reintroduction in the Northern Great Plains. BELOW: PhD student Alex Jensen preparing to release a capture coyote fitted with a GPS collar in an effort to study how coyotes overlap with deer and predate on fawns in South Carolina.



## BOONE AND CROCKETT OUTREACH

As co-director of the Great Lakes Leadership Academy within Michigan State University Extension, Jordan manages the Emerging Leaders Program (ELP) where she is responsible for curriculum development and delivery, participant recruitment, and fundraising. The ELP is a six-month journey down four intertwined paths: understanding self, navigating differences with others, working in groups, and exploring the Common Good. The twelfth cohort of the ELP graduated in October 2019 and recruitment has begun for next year.

To learn more, visit [www.glla.msu.edu](http://www.glla.msu.edu)

In addition to leadership programming, Jordan is eager to continue her work on critical wildlife conservation needs, including chronic wasting disease (CWD). Jordan recently hired a statewide extension educator who will create, deliver, and evaluate local and statewide communication strategies and innovative educational programs related to white-tailed deer management and CWD. This new position will draw on the expertise of the Michigan Department of Natural Resources to design, implement and evaluate education programming based on basic and applied research and the needs of various stakeholder groups.



Ms. Jordan Burroughs

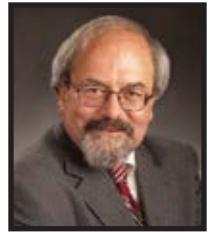
*"A transcendental experience and journey that will make you a better person, coworker, spouse, friend, and overall good human being in person. Keep an open mind and heart, leave your ego and preconceived notions at the door, and be prepared to watch yourself and 25 others transform from good to great."*

- 2019 GLLA Graduate



# DEMMER SCHOLARS PROGRAM

The William A Demmers Scholars Program provides opportunities for outstanding undergraduate and graduate students at Michigan State University and Mississippi State University (and in 2020, the University of Montana) to obtain coveted summer policy internships with natural resources non-governmental organizations and government agencies operating in Washington, DC. The program brings students into contact with natural resources leaders within government and the private sector. Since 2009, 276 students have completed the program. Over 60 of them are working today in policy positions in Washington, DC, including as political appointees in the two most recent Administrations.



Mr. Mark Rey

*"I thoroughly enjoyed my internship and all that I learned about policy-making in DC, as well as the vital role that hunters and anglers play in conservation. I am glad that I ended up at the Theodore Roosevelt Conservation Partnership as I think that the experience was more meaningful and worthwhile than anything I could have received anywhere else."*

- Sydnie Burch,  
Michigan State University

*"This summer has been the opportunity of a lifetime. I came into this program with little to no political experience and even less knowledge of how legislation was crafted. Working at the US Senate gave me the knowledge base needed to pursue a career in conservation policy."*

- Rick Campbell,  
Mississippi State University

*"I found that the US Department of Agriculture [Foreign Agricultural Service] is full of genuine people that really want to support the growth of individuals' careers within the agency. There was never a day when I did not feel a part of the organization."*

- Bailey Senyitko,  
Mississippi State University

*"Working at the US Forest Service was an incredibly enriching experience. I learned so much about myself and what I want to do after graduation. This summer has confused me about where I want to go with my career, but in the best possible way."*

- Abigail Wallace,  
Michigan State University



# 2019 BOONE AND CROCKETT FELLOWS



 <p><b>Aniruddha Belsare</b> (Postdoctoral fellow; Michigan State): An agent-based approach for surveillance and management of CWD</p>	 <p><b>Mike Clawson</b> (Postdoctoral fellow; U of Montana): Demographic modeling of harvested wildlife.</p>	 <p><b>Levi Heffelfinger</b> (Ph.D. student; TAMU-Kingsville): Influence of agriculture on mule deer demographics and movement in the Texas panhandle</p>
 <p><b>Stephanie Berry</b> (Ph.D. student; U of Montana): Retrospective assessment of wildlife response to habitat treatments in Montana and Idaho</p>	 <p><b>Jonathan Cook</b> (Ph.D. student; Michigan State): Risk integration and decision making: surveillance approaches for CWD</p>	 <p><b>Kaylee Hollingsworth</b> (M.S. student; Texas A&amp;M): Little and large: mammals as indicators of ecological resilience</p>
 <p><b>Vaughan Branch</b> (M.S. student; U of Montana): Management authority on federal lands and effective collaboration on habitat connectivity</p>	 <p><b>Bridgett Downs</b> (Ph.D. student; Texas A&amp;M): The effects of insects on North American ungulates.</p>	 <p><b>Chris Hoving</b> (Ph.D. student; Michigan State): Coupled human and natural systems models of oak management in a changing climate</p>
 <p><b>Megan Brown</b> (B.S. student; U of Wisconsin-Stevens Point): Detecting secretive marsh birds and the impacts of water management</p>	 <p><b>Kathryn Frens</b> (Ph.D. student; Michigan State): The effects of policy: land use, biodiversity, and human communities in the Northern Forest</p>	 <p><b>Ashley Huinker</b> (M.S. student; Michigan State): Microhabitat selection and reproductive success of American woodcock in Michigan</p>
 <p><b>Rebecca Cain</b> (Ph.D. student; Michigan State): Impacts of landscape-level changes on abundance and distribution of record book white-tailed deer</p>	 <p><b>Jessie Golding</b> (Ph.D. student; U of Montana): Multi-species mesocarnivore monitoring</p>	 <p><b>Nick Jaffe</b> (Ph.D. student; Michigan State): Ecological and economic effects of wolf recolonization in the Lower Peninsula of Michigan</p>
 <p><b>Andrew Carlson</b> (Ph.D. student; Michigan State): Fisheries as coupled human and natural systems</p>	 <p><b>Molly Good</b> (Ph.D. student; Michigan State): Role of law enforcement in Great Lakes fisheries management</p>	 <p><b>Garrett Knowlton</b> (B.S. student; Michigan State): White-tailed deer movement across a developmental gradient in Southern Michigan</p>
 <p><b>Sonja Christensen</b> (Postdoctoral fellow; Michigan State): Evaluating the interaction of emerging diseases on white-tailed deer populations</p>	 <p><b>Christopher Hansen</b> (Ph.D. student; U of Montana): Conservation benefits of sustainable land use on mammal communities</p>	 <p><b>Jessica Krohner</b> (M.S. student; U of Montana): Fisher occupancy in Montana and Idaho</p>
 <p><b>Sabrina Claeys</b> (B.S. student; U of Wisconsin-Stevens Point): Swift fox diet and prey selection within a black-footed ferret recovery area</p>	 <p><b>Nora Hargett</b> (B.S. student; U of Wisconsin-Stevens Point): Nest site selection of greater sandhill cranes at Horicon Marsh, Wisconsin</p>	 <p><b>Jeff Martin</b> (Ph.D. student; Texas A&amp;M): Drivers of morphological change in bison: consequences of climate, heat load &amp; nutrition for species management</p>



**Jon McRoberts** (Postdoctoral fellow; U of Montana): Survival, recruitment, and movement patterns of white-tailed deer in Missouri (based at U Missouri)



**Daniel Morina** (Ph.D. student; U of Montana): Ecology and management of elk in North Dakota



**Emily Oja** (M.S. student; U of Montana): Retrospective assessment of wildlife response to habitat treatments in Montana and Idaho



**Andrew Pelletier** (B.S. student; U of Wisconsin-Stevens Point): Microhabitat selection and activity patterns of beaver in Great Lakes landscapes



**Ellen Pero** (Ph.D. student; U of Montana): Ecology and management of the restored elk population in Missouri



**Megan Robbins** (B.S. student; U of Montana): Characteristics of brown bear and human confrontations: a review of encounters in the lower 48



**Leslie Skora** (M.S. student; Michigan State): Monitoring brown bear abundance at Katmai National Park, Alaska



**Lauren Snobl** (M.S. student; U of Montana): Effects of wildfire on elk habitat and distributions in the Blackfoot-Clearwater area, Montana



**Hannah Specht** (Postdoctoral fellow; U of Montana): Evaluation of survey approaches to assess status of non-game indicator species



**Daniel Thompson** (Ph.D. student; Texas A&M): Evaluating the physiological and behavioral responses of moose to fluctuating temperatures



**Noelle Thompson** (Ph.D. student; Michigan State): Modeling white-tailed deer disease risk to determine cost-effective management techniques



**Jonathan Trudeau** (Ph.D. student; Michigan State): Assessing drivers of spread and transmission of CWD in Michigan deer



ABOVE: Jeff Martin and Kaylee Hollingsworth at the Theodore Roosevelt Island in Washington DC. Jeff and Kaylee took a side trip to the memorial during the 99th annual meeting of the American Society of Mammalogists this summer.



# 2019 BOONE AND CROCKETT ACCOMPLISHMENTS



## SELECTED AWARDS

**Perry Barboza** received the Graduate Teaching Award from the Department of Wildlife and Fisheries Sciences at TAMU.

**Megan Brown** was awarded three scholarships to support her undergraduate studies, including the Central Wisconsin Sportman Club Scholarship. Megan also received highest honors for her oral presentation at the UWSP College of Natural Resources Student Research Symposium.

**Sonja Christensen** received the Presidential Award from the Michigan Chapter of The Wildlife Society.

**Sabrina Claeys** was awarded the Martha E. Sorensen Outstanding Student Award Scholarship. Sabrina was also named Outstanding Junior in the UWSP College of Natural Resources.

**Levi Heffelfinger** was awarded the Dr. Larry Varner Memorial Scholarship in Ungulate Nutrition Research and the L. Houston Safari Club Scholarship.

**David Hewitt** and co-authors were awarded Outstanding Popular Article from the Texas Chapter of The Wildlife Society for their *Fair Chase* article entitled Things You May Have Heard about Chronic Wasting Disease (Summer 2018:26-30).

**Ashley Huinker** received the George J. Wallace and Martha C. Wallace Endowed Scholarship Award.

**Garrett Knowlton** was awarded three scholarships to support his undergraduate studies, including the Flint Steelheaders / Eastern Michigan Sportsman Scholarship. Garrett also received the Rocky Mountain Elk Foundation Wildlife Leadership Award.

**Joshua Millspaugh** was recipient of the Excellence in Elk Country Award from the Rocky Mountain Elk Foundation. The award honors an individual whose career has demonstrated desire and dedication to benefit the scientific management of elk or elk habitat.

**William Porter** received the Dr. Elizabeth W. Thorndike Adirondack Achievement Award from the Adirondack Research Consortium.

Noelle Thompson was awarded the Joseph G. Schothofer Memorial Student Award from the Safari Club International Michigan Involvement Committee.

## SELECTED PEER-REVIEWED PUBLICATIONS

**Belsare, A. V.** 2019. MIOvPOP: MIchigan Odocoileus virginianus POPulation dynamics agent-based model. (Version 1.1.0). CoMSES Computational Model Library.

**Berry, S. L.**, L. A. Shipley, R. A. Long, and C. Loggers. 2019. Differences in dietary niche and foraging behavior between sympatric mule and white-tailed deer. *Ecosphere* 10:e02815.

**Bonnot, T. W.**, D. T. Jones-Farrand, F. R. Thompson, III, **J. J. Millspaugh**, J. A. Fitzgerald, et al. 2019. Developing a decision-support process for landscape conservation design. USDA General Technical Report NRS-190.

**Brennan, L. A.**, **D. G. Hewitt**, and S. P. Mahoney. 2019. Social, economic, and ecological challenges to the North American Model of Wildlife Conservation. Pages 130-147 in *The North American Model of Wildlife Conservation*. S. Mahoney and V. Geist, editors. Johns Hopkins University Press, Baltimore, Maryland, USA.

**Cain, R. L.**, N. P. Snow, J. C. Crawford, **D. M. Williams**, and **W. F. Porter**. 2019. Spatial distribution and landscape associations of large-antlered deer. *Journal of Wildlife Management* 83(8):1762-1772.

**DeYoung, C. A.**, T. E. Fulbright, **D. G. Hewitt**, D. B. Wester, and D. A. Draeger. 2019. Linking white-tailed deer density, nutrition, and vegetation in a stochastic environment. *Wildlife Monographs* 202:1-63.

**Franklin, T. W.**, K. S. McKelvey, **J. D. Golding**, D. H. Mason, J. C. Dysthe et al. 2019. Using environmental DNA methods to improve winter surveys for rare carnivores: DNA from snow and improved noninvasive techniques. *Biological Conservation* 229:50-58.

**Fremgen, A. L.**, **C. P. Hansen**, M. A. Rumble, R. S. Gamo, and **J. J. Millspaugh**. 2019. Weather conditions and date influence male sage grouse attendance rates at leks. *Ibis* 161:35-49.

**Gurney, S., J. Smith**, D. Etter, and **D. M. Williams**. 2019. American black bears and hair snares: a behavioral analysis. *Ursus*. In Press.

**Kellner, K. F.**, R. B. Renken, **J. J. Millspaugh**, P. A. Porneluzi, A. J. Wolf et al. 2019. Effects of forest management on vertebrate communities: synthesizing two decades of data from upland hardwood forests in Missouri, USA. *Ecological Applications*:e01993.

**Lehman, C. P.**, C. T. Rota, and **J. J. Millspaugh**. 2019. Nutritional conditions and physiological stress levels of elk in the Black Hills, South Dakota. *PeerJ* 7:e7185.

**Manning, S. E.**, **B. S. Stevens**, and **D. M. Williams**. 2019. Simulated performance of multi-year harvest regulation cycles for wild turkeys. *Journal of Wildlife Management* 83(5):1032-1042.

**Martin, J. , P. Barboza**, Decadal heat and drought drive body size of North American bison (*Bison bison*) along the Great Plains. *Ecology and Evolution* In Press.

**Matseur, E. A.**, **J. J. Millspaugh**, F. R. Thompson, III, B. E. Dickerson, and M. A. Rumble. 2019. The importance of disturbance and forest structure to bird abundance in the Black Hills. *The Condor* 121:1-18.

**Montgomery, R. A.**, K. M. Redilla, R. J. Moll, B. Van Moorter, C. M. Rolandsen, **J. J. Millspaugh**, and E. J. Solberg. 2019. Movement modeling reveals the complex nature of the response of moose to ambient temperatures during summer. *Journal of Mammalogy* 100:169-177.

**Peach M. A.**, J. B. Cohen, J. L. Frair, B. Zuckerberg, P. J. Sullivan, **W. F. Porter**, and C. Lang. 2019. The value of protected areas to avian persistence across 20 years of climate and land use change. *Conservation Biology* 33(2): 423-433.

**Porter, W. F.** and **K. Frens**. 2019. The landscape conservation movement. Pages 73-92 in S. Mahoney and V. Geist, editors. *The North American model of wildlife conservation*. Johns Hopkins University Press, Baltimore, Maryland, USA.

**NOTE:** Bolded names are current or former fellows or B&C University Program Leaders.

Shively, R. D., J. A. Crouse, **D. P. Thompson**, and **P. S. Barboza**. 2019. Is summer food intake a limiting factor for boreal browsers? Diet, temperature, and reproduction as drivers of consumption in female moose. *PLOS One* 14(10):e0223617.

Smith, T. N., C. T. Rota, B. J. Keller, **M. C. Chitwood**, **T. W. Bonnot**, L. P. Hansen, and **J. J. Millspaugh**. 2019. Resource selection of a recently translocated elk population in Missouri. *Journal of Wildlife Management* 83:365-378.

Snow, N. P., K. E. Horak, S. T. Humphrys, L. D. Staples, **D. G. Hewitt**, and K. C. Vercauteren. 2019. Low secondary risks for captive coyotes from a sodium nitrite toxic bait for invasive wild pigs. *Wildlife Society Bulletin* 43:484-490.

**Thompson, D. P., P. S. Barboza**, J. A. Crouse, T. J. McDonough, O. H. Badajos, and A. M. Herberg. 2019. Body temperature patterns vary with day, season, and body condition of moose (*Alces alces*). *Journal of Mammalogy* 100(5): 1466-1478.

**Wright, C. A., J. T. McRoberts**, K. H. Wiskirchen, B. J. Keller, and **J. J. Millspaugh**. 2019. Landscape-scale habitat characteristics and neonatal white-tailed deer survival. *Journal of Wildlife Management* 83:1401-1414.

## SELECTED POPULAR ARTICLES

Besler, E. H., **D. G. Hewitt**, T. E. Fulbright, C. A DeYoung, T. W. Boutton, D. B. Wester, and D. A. Draeger. Social dominance increases pelleted feed consumption by white-tailed deer in south Texas. *Texas Wildlife Magazine*, December 2018.

**Hewitt, D.** Panhandle mule deer: how agriculture affects movement, size, and population health. *Texas Wildlife Magazine*, October 2019.

**Hollingsworth, K.**, R. Shively, S. Glasscock, J. Light, D. Tolleson and **P. S. Barboza**. Tracing the nutrients on the landscape for wildlife health. *Fair Chase Magazine*, Winter 2019.

**Thompson, N. E., J. K. Trudeau**, and **J. D. Cook**. The challenges of communicating chronic wasting disease research in Michigan. *Michigan State Fisheries and Wildlife Spotlight Magazine*, 2019.

## COURSES TAUGHT BY PROGRAM LEADERS

Wildlife Policy, Spring 2019. **R. Cain** and **W. Porter** (Instructors), **N. Jaffe** (Teaching Assistant). Undergraduate.

People, Policy, and Conservation, Spring 2019. **J. Millspaugh** (Instructor). Graduate.

Applied Wildlife Management, Spring 2019. **J. Millspaugh** (Instructor). Undergraduate.

Hunting for Sustainability, Fall 2019. **J. Millspaugh** and L. Metcalf (Co-instructors). Undergraduate and graduate.

Introduction to Wildlife and Fisheries Sciences, Fall 2019. **P. Barboza** (Instructor). Undergraduate.

Fish and Wildlife Law and Administration, Spring and Fall 2019 (online and in person). **P. Barboza** (Instructor). Undergraduate and graduate.

Public Service and Administration Capstone Seminar Consulting Capstone, Spring and Fall 2019. **P. S. Barboza** as advisor to graduate class with C. B. Graham as instructor at Bush School.

## SELECTED OUTREACH AND PROFESSIONAL ACTIVITIES

Alaska Chapter of The Wildlife Society: **D. Thompson**, Webmaster

Association of Fish and Wildlife Agencies, National Fish, Wildlife, and Plants Climate Adaptation Network: **C. Hoving**, Member

Association of Fish and Wildlife Agencies, National Fish and Wildlife Health Initiative Steering Committee: **S. Christensen**, Assistant Coordinator

Boone and Crockett Club Official Measurer: **D. Williams** and **R. Cain**

Human-Bear Conflict Workshop, National Parks Biologists Working Group: **L. Skora**, Member

King Ranch Institute for Ranch Management: **D. Hewitt**, Advisory Council Member

Michigan Chapter of The Wildlife Society: **G. Knowlton** and **N. Thompson**, Conservation Affairs Network Members

Michigan State University Fisheries and Wildlife Graduate Student Organization: **N. Jaffe**, Graduate Committee Representative

National Bison Association, Science and Research Committee: **J. Martin**, Member

Network for Computational Modeling in Social and Ecological Sciences): **A. Belsare**, Member and Reviewer

North American Interdisciplinary Chronic Wasting Disease Research Consortium (NCDC 234): **S. Christensen**, J. Pedersen and **W. Porter**, Leaders

Rocky Mountain Elk Foundation National Science Advisory Group and Montana Project Advisory Committee: **J. Millspaugh**

Texas A&M – Kingsville Wildlife and Agriculture Graduate Student Organization: **L. Heffelfinger**, President

Texas Parks and Wildlife Department Private Lands Advisory Committee: **D. Hewitt**, Member

The Wildlife Society, Nutritional Ecology Working Group: **D. Thompson**, Board

University of Montana Wildlife Biology Program Graduate Admissions Committee: **J. Millspaugh**, Chair

Wildlife Disease Association: **S. Christensen** and **N. Thompson**, Members

Wildlife Society, Early Career Professional Working Group: **J. Trudeau**, Secretary



Photo by N. Jaffe.

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This annual report was created by the Boone and Crockett Club, in collaboration with the Boone and Crockett Quantitative Wildlife Center at Michigan State University.

Design by Karlie Slayer, Rose Stewart, and David Williams