



# WILDLIFE TRACKS

The Quarterly Newsletter of the  
Colorado Chapter of The Wildlife Society

Spring, 2022



## Chapter Officers

### President:

Nate Bickford

### Past President:

Nathan Galloway

### President Elect:

Nate Jones

### Treasurer:

Matt Rustand

### Secretary:

Mark Fletcher

## President's Column

As I reminisce over the Colorado Chapter of The Wildlife Society's annual meeting, I again remember how much I enjoy the company of other wildlife professionals. I love to hear about the science that is occurring in the wildlife field. I often go back and watch videos that were recorded during the national meeting to gain ideas and inspiration. I highly recommend that you too take advantage of the opportunity to watch presentations whenever possible from the national meeting. As peers we can provide motivation and renewed energy to others so that we can get back to work with maybe a new idea or concept, which is important in the world we face today. As Ed Arnett mentioned during his keynote speech, we face a very challenging environment for our work in wildlife. As I write this, I have renewed hope, generated from my own work, science that I have read and watched, as well as ideas imparted by Ed Arnett. There is hope for progress as we learn more from our work and how we apply that information to problems in our local environment, as well as for the global wildlife problems. To grow our opportunities, we need to work together, share skills, inspire each other, and work together to push the needle in a positive direction on our agendas and projects.

As much as we like to focus on our own work and day-to-day lives, this is a huge mistake. If we do not work together as a solid contentious unit, we face a situation where our voice is no longer heard. The biggest mistake would for us all to become more insular and closed off. This is especially important as we face conflict and / or backlash from the public or government personnel. There is a great distrust of science in our society today and it is part of our task to heal this division and to continue to communicate about our research and findings. No longer can wildlife professionals play ostrich. We need to unite to communicate to the public in better and innovative ways.

We need to better communicate with each other, unite and share, and engage with each other. We need to focus on training, pushing science forward, pay attention to policy, and continue pushing the wildlife science and agenda forward. Then we can take that energy and knowledge to the public. We can use our skills and energy to reach the public in a positive manner. That way we can gain the trust of the public, which we need in order to enhance our ability to manage and conserve wildlife into the future.

We all face conflict but together we can overcome the conflict and to echo Ed Arnett's words; "*Conservation must become an investment, We must have the public on our side, bring people across dividing lines.*" The best way for us to accomplish this is to come together and build on the strengths that we all have. This reminds me that the whole is greater than the sum of the parts. As a group we are strong and can achieve so much more than we can separately. So, get involved, help train our peers, and create opportunities to educate and inspire the public.

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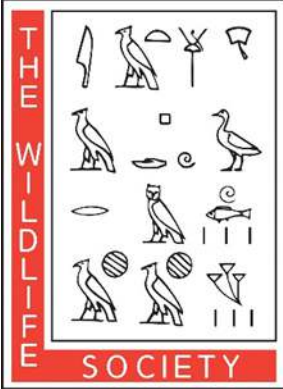
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Please click the link below to **donate to the Colorado Chapter of the Wildlife Society** today!

[https://www.paypal.com/donate?hosted\\_button\\_id=A48SGGBSZJRDQ](https://www.paypal.com/donate?hosted_button_id=A48SGGBSZJRDQ)

# CCTWS Annual Meeting



## Annual Meeting Summary

The 2022 Annual Meeting of CCTWS was a big success, despite the continued virtual format. We had a higher-than-expected turnout, and we greatly appreciate the attendance and participation by everyone that was able to login. Ed Arnett, the new CEO of The Wildlife Society and Colorado resident, kicked things off with an engaging and thought-provoking keynote entitled “Death, Taxes, and Change: Thoughts on How Our Profession Must Adapt to a Rapidly Changing World”. The Executive Board is very grateful to Ed for his time.

Following the keynote, we had six very interesting presentations on wildlife research from students and early-career professionals. The abstracts are listed below. Please reach out the presenters if you are interested in watching their pre-recorded talk or have any follow-up questions. We wrapped up our annual meeting with student award presentation, small grant research award presentation, and the photo contest winners. We can’t wait to see you all in-person at next year’s annual meeting which will be CCTWS’s 50<sup>th</sup> anniversary celebration and we will be co-hosting with the Central Mountains and Plains Section annual meeting. It should be a grand event and your Executive Board has already started planning! If you would like to be involved in planning this big event, please reach out to Nate Jones (President-elect of CCTWS) at [nathan.jones@hdrinc.com](mailto:nathan.jones@hdrinc.com).

# CCTWS Annual Meeting



## Annual Meeting Abstracts

**Erin Gelling and Van Graham (Colorado Crane Conservation Coalition)**

**Abstract:** Greater sandhill cranes (*Antigone canadensis tabida*) are a long-lived species with low reproductive output and a State Special Concern species in Colorado. Though previous research has focused on crane nesting success, little is known about their behavior during nesting and incubation. We established a livestream video camera in 2021 on a nest in northwest Colorado to be used as an educational and scientific tool. The camera was closely monitored before, during, and after incubation. The camera successfully recorded the crane pair night roosting before nesting, copulating, nest building, laying 2 eggs, incubating, and hatching one egg. The camera also recorded the

chick in the nest within the first 2 days after hatching, the chick feeding with the parents nearby after leaving the nest, and several predation attempts by raccoon and mink. All recorded predation attempts occurred between 1958 – 0600 MDT when the female was incubating. The female 3 incubated on average 15.4 hours (64.2%) and the male incubated on average 8.2 hours (34.2%) per day. The female returned to the nest for the morning incubation exchange between 0629–0823 MDT and evening exchange between 1408–1956 MDT. Educating the public about crane nesting and collecting scientific data can be done simultaneously when using creative tools like a livestream camera. This camera revealed the basic nesting behavior of a biparental precocial bird and the literature gaps for crane nesting ecology. Findings from this camera demonstrate that more research is warranted to examine basic sandhill crane incubation behavior and nesting ecology.

**Noelle Mason (Colorado State University), Mariana Rodriguez (Colorado State University), and Kristen Ruegg (Colorado State University)**

**Abstract:** Conservation of biological diversity is increasingly challenging as the global climate rapidly changes. Recent work supports the idea that avian populations, which have declined by 2.9 billion birds since the 1970s, are able to persist in the face of changing climate conditions based on the extent of climate specialization across the annual cycle. Climate specialists track their climate niche across the annual cycle, whereas generalists which switch their climate niche between seasons. However, ornithologists understanding of what happens on North American birds wintering grounds is often limited. Here we take advantage of a rare opportunity to study the potential implications of climate tracking and climate switching on individuals in the yellow warbler (*Setophaga petechia*), where the extent of climate tracking across the annual cycle has been extensively quantified. Because niche-trackers and switchers likely experience differential stress, this study aims to understand whether niche-switching and niche-tracking populations differ in telomere length. Telomeres reflect stress throughout an organism's life history and are strongly correlated to an individual's relative lifespan and fitness. Environmental stressors, such as those experienced as a result of niche-tracking or switching, accelerate this attrition. Understanding stress impacts associated with migration to wintering ground niches may help to reveal the selective pressures exerted on yellow warblers outside of their breeding grounds. This knowledge could even illuminate the adaptive capacity of climate specialists compared to generalists. Implications from this study will support conservation efforts of birds and other migratory taxa in the face of rapid climate change.

**Heather Reynolds (Western Colorado University), Jessica Young (Western Colorado University), Nathan Seward (Colorado Parks and Wildlife), Renee Rondeau (Colorado Natural Heritage Program), Sarah Marshall (Colorado Natural Heritage Program)**

**Abstract:** Understanding Gunnison sage-grouse (*Centrocercus minimus*) critical seasonal habitat requirements is key to their conservation. Improving brood-rearing habitat may aid in chick and juvenile survival into the breeding population. It is unknown if ongoing habitat restoration efforts in Gunnison, CO are directly benefitting Gunnison sage-grouse (GUSG); a species that was federally 4 listed as threatened in 2014.

# CCTWS Annual Meeting

From 2016-2020 we placed 30 camera traps equally on treated wet meadows that had previously received restoration structures, and nearby control sites that had not, in order to target GUSG. We continuously collected photos during GUSG brood-rearing season (July – October) each year and recorded number of individuals in each photo. Wet meadow vegetation data was compiled from local agencies that monitored similar habitats. The objectives of this study are to assess GUSG use of treated versus control wet meadows over time and determine if there is a relationship with regional drought indices and change in wetland vegetation cover on those types of sites. This study is currently in the analysis phase. Results of the study will be presented along with management recommendations and future studies needed.

**Eli Wildey (Colorado State University – Pueblo), Matthew Rustand (Bureau of Land Management), Nate Bickford (Colorado State University – Pueblo)**

**Abstract:** Outdoor recreation extends human influence on landscapes beyond built environments but is often thought to be compatible with wildlife conservation. Human capability as a highly efficient predator creates a strong selective force on wildlife, analogous to natural predation risk, regardless of trophic level. Shifts in the spatiotemporal niche has been identified across taxa, in response to this consistent human presence. How these changes alter interactions such as competition and predator-prey dynamics and potentially cascade across trophic levels; represents an important step in understanding and mitigating the impact of our everyday presence on the ecosystems we depend on. Here we present preliminary results of the spatiotemporal shifts exhibited by a wildlife community by comparing movement between a control area and a high-use trail network. Location data are analyzed for a wildlife community composed of mule deer (*Odocoileus hemionus*), mountain cottontail (*Sylvilagus nutallii*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), bobcat (*Lynx rufus*) and coyote (*Canis latrans*). Activity patterns are calculated and compared using hourly mean movement rate across the day. Habitat selection for prey species will be modelled using step selection functions (SSFs). Mesopredator habitat selection will be calculated from foraging specific behavior as determined by Hidden Markov movement models and analyzed using resource selection functions (RSFs). It is predicted that mesopredator species shift activity patterns nocturnally to adapt to human activities on the trail network. It is predicted that mule deer and cottontails will shift activity patterns and habitat use.

**Samantha Bundick (Colorado State University – Pueblo) and Nathan Bickford (Colorado State University – Pueblo)**

**Abstract:** The Desert Cottontail (*Sylvilagus audubonii*) is a highly valuable prey species for a number of predators both terrestrial and avian. In Colorado this species faces multiple threats to their populations, including the presence of Rabbit hemorrhagic Disease Virus 2 (RHDV2) and major habitat loss due to anthropogenic and environmental factors. Despite their key role in the ecosystem, there is limited research or monitoring of the desert cottontail in Colorado. Our objective is to help improve future conservation efforts by identifying habitat characteristics that are 5 essential for cottontails, such as refugia locations. To do this, we will investigate the effects of vegetation patterns on space use and selection of 30 collared desert cottontails. To determine finescale vegetation characteristics we will use satellite imagery and object-based imagery analysis (OBIA) to produce vegetation maps. Then we will overlay the telemetry data on the vegetation maps to create resource selection functions (RSF), which will highlight areas of importance. Our preliminary results show desert cottontails are selecting for high shrub cover and low shrub cover. Specifically, that cottontails use extremely thick shrubs and prairie dog colonies. These habitat features likely provide multiple benefits for cottontails, including refugia from predators and thermoregulation. These preliminary results illuminate the relationship between diversity of key habitat features and long-term stable desert cottontail populations within the semi-arid grassland ecosystem and will allow land managers to identify and promote desert cottontail habitat.

# CCTWS Annual Meeting

**Hunter Westacott (Colorado State University – Pueblo), Samantha Bundick (Colorado State University – Pueblo), Eli Wildey (Colorado State University – Pueblo), and Nathan Bickford (Colorado State University – Pueblo)**

**Abstract:** While American badgers (*Taxidea taxus*) serve several ecosystem functions, their reputation for being a nuisance species has led them to be understudied, resulting in gaps in knowledge on their behavior and ecology. In North America, there have been dramatic reductions in native prairie range due to climate change, agriculture, and development, forcing this traditionally prairie obligate species to adapt to increasingly impacted habitats. This makes it important now more than ever to gain a better understanding of badger behavior and ecology. The objective of our study is to provide essential baseline knowledge of American badger resource and space use, and how it relates to percentage of shrub cover in a central shortgrass prairie ecosystem. To do this, we captured and fit Cellular Tracking Technologies PowerTag collars to badgers. These collars provide fine-scale location data, allowing us to get one GPS location every ten seconds. To determine percent shrub cover we utilized remote sensing technologies to produce resource maps. We then analyzed movement data within those maps to create resource selection functions (RSF), providing us with insight into the resources that badgers were preferentially selecting for. Preliminary results indicate that during the late winter months, our badgers tend to use various levels of shrub cover relatively uniformly but are selecting slightly more for higher shrub cover. Our goal is to fill in gaps in knowledge on badger resource selection in a shortgrass prairie ecosystem to provide conservationists with information to identify and promote habitat most beneficial for American badger conservation.

**Kristen N. Amicarelle (Colorado State University – Pueblo), Mike Barker (International Eagle Austringers Association), and Nate A. Bickford (Colorado State University – Pueblo)**

**Abstract:** Golden Eagle (*Aquila chrysaetos*) depredation on sheep is causing a significant human wildlife conflict that is negatively impacting ranchers and eagles. Identifying and introducing best conservation practices for eagle relocation can help reduce this conflict, and in turn improve the economic livelihood of the ranchers, while reducing potential eagle impacts. The objective of this research is to identify quality habitat areas that meet specific conditions to relocate eagles and then understand how habitat and distance from trap sites effect spatial patterns once released. We are sampling vegetation, prey abundance, human disturbance, and eagle nest densities at randomly selected, spatially balanced sample sites to identify appropriate habitat and to aid in release site selection. We are trapping 12 eagles per year and fitting them with cellular GPS transmitters that will provide insight into their movement patterns and habitat preference after relocation. Eagles will be relocated at distance intervals, ranging from 100-400 miles. We will then identify movement patterns over time, so we can determine if the eagles return to the depredation area or stay at the relocation site. Hoping to find resources that keep eagles on the relocation site, we will model resource selection using Akaike's Information Criterion to determine habitat preference. The management application for this project is to identify best practices for eagle relocation to reduce persecution as well as gain further insight into their spatial ecology. This project will help facilitate a long-term cooperative effort between falconers, biologists, and ranchers.



# CCTWS Annual Meeting



## Photography Contest Winners

Dipper Reflections  
Category: Birds  
By Aleshia Rummel



Hunting Fox  
Category: Mammals  
By Aleshia Rummel



Can't Even  
Category: Creative/Comedic  
By Jeremiah Psiropoulos



Wall-Eyed  
Category: Runner Up  
By Jeremiah Psiropoulos



Lovebug  
Category: Invertebrates  
By Elizabeth Peterson

Stoic Coyote  
Category: Game Camera  
By Adam Liao



Front Range Dust Storms  
Category: Landscapes and Still Life  
By Samantha Bundick

# CCTWS Annual Meeting



## Student Awards

### 2022 Allen Anderson Award Klow Si

Klow is a student at Colorado State University Pueblo, as well as a member of the student chapter of the wildlife society, part of the Communities to Build STEM Engagement (CBASW), as well as the Dean's list. He is hoping to graduate this May and is currently drafting a manuscript for JWM. He was nominated for his dependability, motivation, and professionalism. Please congratulate Klow on receiving this prestigious award!



### 2022 Jim Olterman Scholarship Alyssa Rawinski

Alyssa is a student at Western Colorado University, as well as the president of her local student chapter. She holds a 4.0 GPA, and is actively involved in volunteering with the BLM and CPW. She is the recipient of the NSF-funded Research Experience for Undergraduates (REU). This coming fall she is looking to study abroad in Tanzania, and hopes to graduate in May 2023. Please congratulate Alyssa on her award of \$1,500!



# TWS Journals: A New Look & Top Downloads of 2021



*Increases in digital readership spawn a new contemporary look for TWS Journals.*

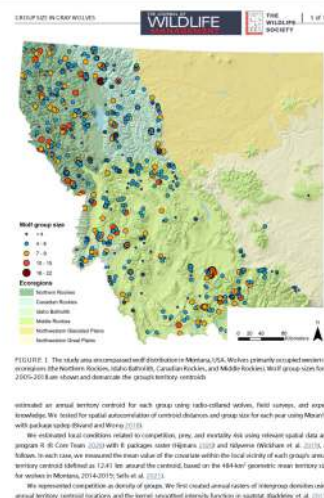
You may have noticed a few changes to the appearance of *The Journal of Wildlife Management*, *Wildlife Monographs*, and *Wildlife Society Bulletin*. After more than a decade without a change in design, TWS Journals have received an updated look. This new contemporary design is intended to improve digital readability of TWS publications while also implementing new industry standards, like eLocators.

One of the most noticeable changes is a switch to a single column format. Over the past several years, TWS has seen a dramatic shift in how our journal content is consumed by members and beyond. In 2021, TWS printed around 2,000 issues of JWM for approximately 200 print subscribers. By comparison, digital article downloads exceeded 425,000 in 2021. Over the past five years, digital downloads of TWS Journal articles have increased by over 85%.

With more people reading our publications on computer screens, tablets, or cell phones, a switch to single column means larger text and less scrolling up and down. We're certainly excited about this forward-looking layout and hope you too enjoy the new design. For a timeline of changes to TWS Journals dating back to 1937 and some additional discussion on the new journal design, check out this [editorial](https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.22063) (<https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.22063>) from the editors of all three TWS Journals.

**Wondering what your fellow wildlifera are reading?** The table below includes the top 10 downloaded papers in 2021. Members of TWS receive free access to all TWS publications. To take advantage of this exclusive member benefit, simply log into [Your Membership](https://wildlife.secure.force.com/customlogin) (<https://wildlife.secure.force.com/customlogin>) and go to the "Publications" tab.

NEW  
JOURNAL  
DESIGN





# TWS Journals: A New Look & Top Downloads of 2021

Table. Top 10 most downloaded papers in 2021.

Title / Author(s) / Journal
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1057">Best Management Practices for Trapping Furbearers in the United States</a> (open access) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1057">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1057</a></p> <p>H. Bryant White, Gordon R. Batcheller, Edward K. Boggess, Clifford L. Brown, Joseph W. Butfiloski, Thomas A. Decker, John D. Erb, Michael W. Fall, David A. Hamilton, Tim L. Hiller, George F. Hubert Jr., Matthew J. Lovallo, John F. Olson, Nathan M. Roberts</p> <p><i>Wildlife Monographs</i></p>
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21649">Climate change effects on deer and moose in the Midwest</a> (open access) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21649">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21649</a></p> <p>Sarah R. Weiskopf, Olivia E. Ledee, Laura M. Thompson</p> <p><i>The Journal of Wildlife Management</i></p>
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21501">Stakeholder trust in a state wildlife agency</a> (free access for TWS members) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21501">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21501</a></p> <p>Shawn J. Riley, J. Kevin Ford, Heather A. Triezenberg, Patrick E. Lederle</p> <p><i>The Journal of Wildlife Management</i></p>
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21844">Effects of Wind Turbine Curtailment on Bird and Bat Fatalities</a> (open access) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21844">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21844</a></p> <p>K. Shawn Smallwood, Douglas A. Bell</p> <p><i>The Journal of Wildlife Management</i></p>
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.22089">Sage-Grouse Population Dynamics are Adversely Affected by Overabundant Feral Horses</a> (open access) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.22089">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.22089</a></p> <p>Peter S. Coates, Shawn T. O'neil, Diana A. Muñoz, Ian A. Dwight, John C. Tull</p> <p><i>The Journal of Wildlife Management</i></p>
<p><a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1041">Dynamics, Persistence, and Genetic Management of the Endangered Florida Panther Population</a> (open access) --  <a href="https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1041">https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1041</a></p> <p>Madelon van de Kerk, David P. Onorato, Jeffrey A. Hostetler, Benjamin M. Bolker, Madan K. Oli</p> <p><i>Wildlife Monographs</i></p>

# TWS Journals: A New Look & Top Downloads of 2021

**Dynamics, Persistence, and Genetic Management of the Endangered Florida Panther Population** (open access) -- <https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wmon.1041>

Madelon van de Kerk, David P. Onorato, Jeffrey A. Hostetler, Benjamin M. Bolker, Madan K. Oli

*Wildlife Monographs*

**Preparing Wildlife for Climate Change: How Far Have We Come?** (free access for TWS members) -- <https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21969>

Olivia E. LeDee, Stephen D. Handler, Christopher L. Hoving, Christopher W. Swanston, Benjamin Zuckerberg

*The Journal of Wildlife Management*

**ctmmweb: A Graphical User Interface for Autocorrelation-Informed Home Range Estimation** (open access) -- <https://wildlife.onlinelibrary.wiley.com/doi/10.1002/wsb.1154>

Justin M. Calabrese, Christen H. Fleming, Michael J. Noonan, Xianghui Dong

*Wildlife Society Bulletin*

**Effects of future sea level rise on coastal habitat** (open access) -- <https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21633>

Betsy Von Holle, Jennifer L. Irish, Annette Spivy, John F. Weishampel, Anne Meylan, Matthew H. Godfrey, Mark Dodd, Sara H. Schweitzer, Tim Keyes, Felicia Sanders, Melissa K. Chaplin, Nick R. Taylor

*The Journal of Wildlife Management*

**Increased scientific rigor will improve reliability of research and effectiveness of management** (free access for TWS members) -- <https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21413>

Sarah N. Sells, Sarah B. Bassing, Kristin J. Barker, Shannon C. Forshee, Allison C. Keever, James W. Goerz, Michael S. Mitchell

## Thank you to Associate Editors and Reviewers!

As a final note, TWS would like to express our sincere gratitude to all of the associate editors and reviewers who contributed to the success of TWS Journals in 2021. Without your efforts, the quality of our journals could not be sustained. Thank you!

Associate editors and reviewers are essential to the publication process and our editors are constantly looking to expand our base of topic area experts. Should you be called upon to fill one of these important roles, I encourage you to answer the call (or assist our editors in finding a suitable individual). Click [here](https://wildlife.org/publications/) (<https://wildlife.org/publications/>) for additional information about TWS publications, including contact information and author guidelines.

Cameron Kovach

# Virtual Workshop

## Fostering Sustainable and Healthy Behavior Workshop

Dr. Doug McKenzie-Mohr will be delivering an introductory community-based social marketing training virtually in June. This workshop will be of particular interest to agencies working to promote waste reduction, energy and water efficiency, conservation, sustainable food consumption, the control of invasive species, modal transportation changes and other sustainable actions. This training will also be of interest to organizations promoting health and safety (e.g., hand washing, active lifestyles, immunization, cancer prevention and screening, blood donations, earthquake and fire safety, workplace safety, etc.). Community-based social marketing is a unique approach to fostering both environment and health-related behavioral changes and is now being utilized globally.

**About the Speaker:** For over three decades Dr. McKenzie-Mohr has been working to incorporate scientific knowledge on behavior change into the design and delivery of community programs. He is the founder of community-based social marketing and the author of three books on the topic. One of these books has been recommended by Time Magazine and become requisite reading for those who deliver programs to protect the environment, promote public health and prevent injuries. His work has been featured in the New York Times and he is the recipient of the American Psychological Association's inaugural award for innovation in environmental psychology and the World Social Marketing conference's inaugural award for contributions to the field of social marketing. He has delivered workshops internationally for over 75,000 program managers.

**Introductory Workshop** (Three four-hour sessions spread over June 20, 21 & 22): The introductory workshop provides a comprehensive introduction to community-based social marketing and how it is being applied throughout the world to foster behavior change. Those who attend the workshop will learn the five steps of community-based social marketing (selecting behaviors, identifying barriers, developing strategies, conducting pilots, and broad scale implementation) and be exposed to numerous case studies illustrating its use. Participants will receive an electronic copy of the third edition of "An Introduction to Community-Based Social Marketing" as well as a certificate of completion. The introductory workshop is a **mandatory** prerequisite for advanced workshops with Dr. McKenzie-Mohr.

**Group Bookings:** If you are interested in registering five or more people from the same agency, please contact us. For groups of five or more the reduction is \$75 per person.

**Additional Information and Registration:** To accommodate attendees from across North America, the workshop begin at 8:30 am Pacific and finish at 12:30 pm on each day.

Use the following coupon code to receive \$50 off when registering: 908aa70f

This savings is in addition to our early-bird prices.



# Student Chapter Updates

## Western Colorado University Gunnison, CO

We started our TWS semester with the very popular aquascaping workshop led by our historian, Annate'a Saylor. Each student got to take home their own air or water terrarium creation made with various plants, rocks, sand, and sticks.

Soon after, we were led by Recreation and Outdoor Education (ROE) Professor, Dave Erbe, and ROE student, Justyn Beckham, in a Quinzhee shelter workshop, where we built survival snow shelters at Mill Creek outside of Gunnison.



The next Saturday involved a snow tracking workshop led by Colorado Parks and Wildlife (CPW) biologist, Dan Zadra. The students had a lot of fun learning to identify animal tracks and seeing some of the animals that made them.

Then, two district wildlife managers (DWMs), Clayton BonDurant and Phil Gurule, answered questions about a DWM position and demonstrated how their K-9 dog is used to track wildlife scents. Following that week, we had a mock interview and resume building workshop organized by Bureau of Land Management (BLM) fisheries biologist, Russ Japuntich. For this workshop, students rotated through agency professionals to practice answering job interview questions. This was a valuable workshop that allowed students to gain essential practice in professional interviews (bottom left photo). We are thankful for the professionals that helped: Kathy Brodhead (BLM), Matt Vasquez (United States Forest Service), Darren Long (USFS), and Dan Brauch (CPW).



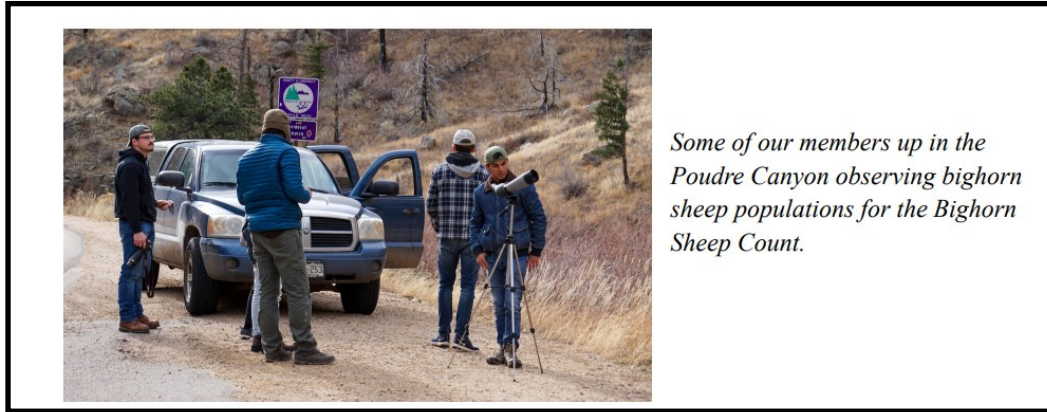
After spring break, we plan to have a field trip to the Mission: Wolf Sanctuary in Westcliffe, CO where we will learn about wolves and do a volunteer project. We will also sell succulents and t-shirts as a fundraiser during Earth week. We are very grateful for the support from CCTWS and our TWS members.



# Student Chapter Updates

## Colorado State University Fort Collins, CO

From the previous semester to now, we have, as a chapter, done park clean ups, learned about Black Footed ferrets, witnessed elk rut season, restarted old fundraisers, collected data on bighorn sheep populations and much more! To give a spotlight on some of the awesome things our chapter has had the opportunity to do is, one, the Bighorn Sheep Count. The Bighorn Sheep count is one of the chapter's favorite events of the year, and is done with Colorado Parks and Wildlife, where members will go up to the Poudre Canyon, collect data, and record bighorn sheep populations in the area! Despite all the damage from the wildlifes back in 2020, we were able to see some good numbers of bighorn sheep which was really exciting!



*Some of our members up in the Poudre Canyon observing bighorn sheep populations for the Bighorn Sheep Count.*

Raptor Monitoring is a huge part of our chapter, it being the focus of one of our long-term projects at Boyd Lake state park with CPW (Colorado Parks and Wildlife). This project has given our members a chance to learn how to ID birds and raptors, collect data and observations within the state park, and have a great time meeting new people! Along with the on-going project, we were able to take a few of our members to the Raptor Monitoring Volunteer Conference back in November. This was a chance for these birders to better improve their ID skills, meet new people and make more connections within the raptor community! We have multiple fence removal and building projects/work days coming up in the next two months, which will give awesome chances for our members to get outside and get some experience with fence building and removal! We are so excited for what the rest of this semester has to bring for our chapter!

# Board Members, March 2022



Officers	Email Contact
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Treasurer: Matt Rustand	mrustand@blm.gov
Secretary: Mark Fletcher	fletcher@pinyon-env.com
<b>Executive Board: Regional</b>	
NE Representative: Sara Kramer	sara.kramer1626@gmail.com
NW Representative: Kathy Griffin	kathy.griffin@state.co.us
SE Representative: Cassidy English	cassidy.english@state.co.us
SW Representative: Marcella Tarantino	marcella.tarantino@usda.gov
<b>Executive Board: At-Large</b>	
Andrew Don Carlos	andrew.don_carlos@colostate.edu
Emily Latta	elatta@blm.gov
Adam Behney	adam.behney@state.co.us
Tiffany Rubalcaba	trubalcaba@blm.gov

# Committees and Chairs, March 2022

Committee	Chair	Chair Contact
<b>Standing Committees</b>		
Program/Annual Meeting	CCTWS Board	nate.f.jones@gmail.com
Inclusivity, Diversity, Equity and Awareness	Patrick Magee!	pmagee@western.edu
Legislation and Conservation Affairs	Katie Bradfish	katherineb99@msn.com
Newsletter	Alex Fortney	alexandra.fortney@gmail.com
Nomination/Elections	Nate Jones	nate.f.jones@gmail.com
Policy/Resolutions	Nate Bickford	nate.bickford@csupueblo.edu
Professional Awards	Korby Mintken	mintken@pinyon-env.com
Student Awards	Nick Kaczor	nickkaczorwildlife@gmail.com
Membership	Courtney King	courtney.king@western.edu
Conservation and Land Use Review	Cassandra Holman	cassandra.holman@gmail.com
Small Grants and Travel Grants	Emily Latta	elatta@blm.gov
Web Page, Social Media (Marketing)	Aleshia Rummel	Aleshia.fremgen@westernalum.org
Professional Development Programs	Liz Peterson	Elizabethkpeterson@gmail.com
Student Affairs and Mentoring	Katie Gray	katiegray789@gmail.com
<b>Liaisons</b>		
Historian	Danguole Bockus	Danguole_bockus@nps.gov
Jim Olterman/Candace Taylor Investment Fund	Patrick Magee!	pmagee@western.edu
<b>Representatives</b>		
CSU Student Chapter	Remi Pattyn Liaison: Andrew Don Carlos Advisor: Larissa Bailey	remipattyn@yahoo.com Andrew.don_carlos@colostate.edu Larissa.bailey@colostate.edu
Western Student Chapter	Alyssa Rawinski Liaison: Marcella Tarantino Advisor: Pat Magee!	Alyssa.rawinski@western.edu marcella.tarantino@usda.gov pmagee@western.edu
CSU Pueblo Chapter	Angeline Canney Liaison: Cassidy English Advisor: Claire Ramos	Angeline.canney@csupueblo.edu
CMPS President	Shelly Deish	Shelly.Deisch@state.sd.us
CMPS Representative to TWS	Andrea Orabona	Andrea.orabona@wyo.gov
CCTWS Representative to CMPS	Nate Bickford	nate.bickford@csupueblo.edu

# CCTWS Treasurer's Report

## March 2022 Treasurer Report

### Revenue/Gifts:

Received a \$100 contribution to be used towards awarding the Allen E. Anderson award for top undergraduate student

Received a \$500 contribution to supplement the Jim Olterman Scholarship

### Expenses

Incur a \$50/month charge from the website MemberPlanet, to assist with managing the chapters membership.

Awarded a \$750 small grant to a graduate student from Western to be used for Mexican spotted owl research.

Purchased bronzed plaque from Carlson Memorial for \$4,675.00. Plaque to be used for the Jim Olterman Memorial. Money for the purchase had been previously fundraised specifically for this purpose.

### Accounts as of 28 February 2022:

Checking account - \$6,817.20

Reserve Fund Money Market - \$35,234.37

Savings Account – \$508.83

PayPal Account - \$188.03

CCTWS Target Reserve for 2021 - \$37,217.42 (Reserve Fund and Savings account)



# CCTWS Meeting Minutes

## **CTWS Meeting Minutes**

To reduce the overall volume of the newsletter we will not be including minutes from our monthly board meetings. CCTWS members who would like to review board meeting minutes are encouraged to visit our website:

<http://wildlife.org/colorado/meetings/>

# Membership Form

Become a TWS member: <https://wildlife.org>

Become a CCTWS member: <https://wildlife.org/colorado/>

1 Year Student Membership: \$10

1 Year Regular Membership: \$20

2 Year Regular Membership: \$35

3 Year Regular Membership: \$45

## Colorado Chapter of the Wildlife Society - Membership Application

Name: \_\_\_\_\_

Address

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Work Phone: \_\_\_\_\_ Home Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Today's Date: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Interested in Committee Work?      Yes      No

Are you a TWS Certified Biologist?      Yes      No

Area of Expertise/Interest: \_\_\_\_\_

Dues: 1 Year: \$20      2 Years: \$35      3 Years: \$45      1 Year Student: \$10

MC/Visa: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Mail to: Matthew Rustand, 340 Beltramo Ln, Canon City CO 81212  
or scan and email to: [mrustand@blm.gov](mailto:mrustand@blm.gov)

Please visit the Colorado Chapter of the Wildlife Society web page at [Wildlife.org/Colorado](https://Wildlife.org/Colorado) and the Wildlife Society web page at [Wildlife.org](https://Wildlife.org). Become a member today!