

# JACOB HARVEY

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## EDUCATION

Candidate: May 2024

MSc University of Nebraska-Lincoln, School of Natural Resources

- Thesis: Diet, spatial ecology, and energetics of mountain lions at an urban interface

December 2020

B.S. Paul Smith's College, Department of Natural Sciences

- Major: Fisheries & Wildlife Sciences: Wildlife concentration.
- GPA: 4.0, Summa cum laude graduate honors
- 7x Adirondack Scholar (awarded to Paul Smith's College students with a GPA of 3.8 or higher)
- 7x Dean's List (awarded to Paul Smith's College students with a GPA of 3.3 or higher)
- Provost Award Recipient (only award given at Paul Smith's College commencement, awarded to a single student of high academic standing and dedication)
- Academic success yielded graduation 1 semester early
- Secretary: Paul Smith's College Student Chapter of The Wildlife Society
- Member: Paul Smith's College Chapter of the National Society of Leadership and Success

## Noteworthy Classwork

Fall 2018 (A+)

**International Winter Ecology (BIO380).** Zvenigorod, Russia.

Worked alongside professors from Moscow State University at the Zvenigorod Biological Station. Analyzed physiological adaptations to cold climates within the disciplines of botany, vertebrate zoology, hydrobiology, and entomology. Participated in a long-term study comparing habitat and browse use and availability between snow hare and moose.

Spring 2020 (A+)

**Wildlife Management (FWS470).**

Satisfied senior capstone requirement in the form of a wolverine management plan in the North Cascades of Washington. Utilized the species natural history in addition to ecological, sociocultural, economic, and policy impacts as a means developing a plan to increase the population to a more sustainable size. Created an original wolverine population model utilizing fecundity and survivorship data from the literature at all age classes. Developed sensitivity and elasticity matrices to assist in making management decisions. Created management goals and objectives based upon habitat limitations to population demographic success due to decreased persistent snow cover and decreased heterozygosity.

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## **PROFESSIONAL EXPERIENCE**

May 2021 – present

**Institute for Wildlife Studies (IWS) – Wildlife Biologist.** Sonoma, Napa, Lake Counties, CA

Employed by IWS to assist Dr. Quinton Martins with a mountain lion diet study through True Wild LLC. and Audubon Canyon Ranch's Living with Lions project. Identified and investigated over 100 mountain lion kill clusters by editing and running R scripts with downloaded mountain lion collar data. Overlaid kill cluster .csv locations with parcel map layers on ArcGIS to identify private landowners. Made over 300 phone calls to private landowners and accessed mountain lion kill sites to collect data including prey species, age, and sex as well as habitat metrics and landowner information. Used kill cluster and prey composition data to calculate kill rates and biomass percentages for individual lions. Investigated active mountain lion clusters and utilized kills to successfully capture and collar 5 lions. During captures, assisted in monitoring vitals, collecting body measurement and condition data, and genetic sampling. Mitigated issues with multiple landowners that had suffered livestock depredations and suggested various methods to protect livestock. Gained grant writing experience through a Sonoma County Fish & Wildlife grant application.

January 2021 – April 2021

**Pennsylvania Game Commission White-tailed Deer – Forest Study Biological Aide.** Potter Co., PA

Utilized clover traps and rocket nets to capture and handle over 75 white-tailed deer. Deployed radio collars on select deer to assess deer impact on forest regeneration and species composition within the Susquehannock State Forest. Administered Xylazine and Tolazoline to antlered and overly excited deer in clover traps and rocket nets to prevent capture myopathy. Carried heavy, non-collapsible clover traps into baited sites. Used radio telemetry to locate collared deer and blow-off old collars. Participated in roadside white-tailed deer population counts utilizing FLIR thermal imaging cameras and ArcPad software packages. Successfully drove state trucks with tire chains and snowmobiles on high exposure forest roads maintained for public snowmobile traffic.

May 2020 – August 2020

**Sierra Nevada Bighorn Sheep Recovery Program/University of Wyoming Scientific Aide.** Bishop, CA

Identified endangered Sierra Nevada bighorn sheep mortality locations utilizing mountain lion GPS collar data. Conducted compositional observations of Sierra Nevada bighorn sheep by sex, age, ear tag identification, and ewe-lamb relationship via suckling. Learned Sierra Nevada bighorn sheep forage preferences and flora of the Eastern Sierra. Determined cause of death, conducted body condition assessments, including bone marrow rating, and described any signs of scavenging. Identified cause of death as mountain lions by scat mounds, caches, tracks, plucked hair, and carcass condition. Assisted in mountain lion capture and chemical immobilization with ketamine to deploy GPS collar. Collected genetic samples from anesthetized mountain lions including blood, fecal, ocular, soft palate, and ear punches in addition to monitoring vitals.

May 2019 – August 2019

**Washington Predator Prey Project Research Experience for Undergraduates (REU) Mesocarnivore Student.** Winthrop, WA.

Assisted doctoral candidates in the University of Washington's Prugh Lab to analyze the impact of recolonizing wolves on sympatric mesocarnivore populations. Set foothold traps to capture bobcats and coyotes in the Okanogan National Forest. Utilized Y-poles to submit predators and chemically immobilized individuals with BAM (Butorphanol, Azaperone, Medetomidine) to deploy GPS radio collars. Conducted body measurements including canine length, head length, tail and body length, chest and neck girth, and head length. Obtained hair and ear punch samples from coyotes and handled bycatch species including black bears, marmots, and a badger. Identified wolf and mountain lion kill site location via GPS collar clusters. Performed necropsies, analyzed bite-mark dimension analysis, and hemorrhaging, to determine cause of death of bobcats and mule deer. Used radio telemetry to locate collared bobcat and coyote dens.

May 2018 – August 2018

**National Elk Refuge Irrigation Crew Member.** Jackson, WY.

Maintained a K-line irrigation system to grow optimal forage across 4,000+ acres of wintering elk habitat. Obtained certifications for on and off highway motorized vehicle safety (listed in certifications). Followed a GPS land grid system to successfully pull irrigation lines to the correct position to ensure proper irrigation. Assisted wildlife biologists in removing lymph nodes from wolf-killed elk to be tested for chronic wasting disease. Participated in wolf den surveys to document pup movements and identify individuals.

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## **VOLUNTEER EXPERIENCE**

August 2020

**Wyoming Wild Sheep Foundation Seminoe Mountain Guzzler Rebuild.** Rawlins, WY.

Volunteered as the representative from the Eastern Chapter of the Wild Sheep Foundation to rebuild a guzzler (artificial water source) and deconstruct a second guzzler.

November 2019

**Pennsylvania Game Commission Bear Check Station Volunteer.** Tidioute, PA.

Assisted wildlife biologists in documenting all black bears harvested in the Pennsylvania hunting season. Assessed body condition of bears, noted parasite infestations, removed first premolar for aging, and recorded weight of the animal. Collaborated with the U.S. Forest Service in creating a GIS map of bear harvest location across Warren County, PA.

September 2019

**New York State Department of Environmental Conservation: Waterfowl Banding.** Chazy, NY.

Utilized a cannon net on baited waterfowl at the Lake Alice Wildlife Management Area in the Lake Champlain Valley. Aged, sexed, and banded 28 wood ducks prior to their release.

August 2019

**Mountain Goat Translocation Driver. Port Angeles, WA.**

Assisted the Washington Department of Fish & Wildlife in transporting nonnative mountain goats in Olympic National Park to native ranges in the North Cascades. Drove 16' refrigerator trucks 150+ miles to staging areas with helicopter access in the North Cascades. Attached crated mountain goats to a helicopter to be transferred and released in inaccessible alpine habitat.

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## SCHOLARSHIPS

June 2017

**United States Marine Corp Scholar Athlete** Non-monetary

May 2020

**Wild Sheep Foundation Life Member Fund Scholarship** \$5,000

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## TEACHING EXPERIENCE

September 2019 – November 2020

**Academic Success Center Supplementary Instructor (SI)** – Chemistry 1 (CHM141)

September 2018 – November 2020

**Academic Success Center Peer Tutor** – Intro. to Fisheries & Wildlife Mgmt. (FWS101), Dendrology (FOR110), Chemistry 1 (CHM141), General Ecology (BIO210)

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## SKILLS & CERTIFICATIONS

3/21 PA Dept. of Conservation and Natural Resources Snowmobile Safety Training

1/21 American Red Cross CPR and First Aid Certification

- 5/19 University of Washington IACUC: Animal Use Laws and Regulation Training (AUTS)
- 5/18 ATV Safety Institute E-course and Hands-on ATV RiderCourse
- 5/18 NSC Defensive Driving Course 10th Edition R
- 5/18 Recreational Off-Highway Vehicle Association
- 3/13 Pennsylvania Game Commission Hunter Safety Certified

### **Technical Field Skills**

Radio telemetry, animal capture; mist netting, rocket netting, stationary traps (Havahart, Conibear, Foothold, Clover, Sherman), animal handling; body measurements, chemical immobilization, vitals (respiration, femoral heart rate, body temperature, pulse oximeter blood oxygen), biological/genetic collection; ocular, fecal, soft palate, ear punch, blood and hair, PIT tag insertion, animal track and sign identification, orienteering (compass w/ declination, map, and GPS), firearm use, field necropsy, backcountry backpacking proficiency, bear safety, vehicle terrain navigation

### **Computer Software Skills**

Microsoft Office (Excel, Word, PowerPoint, Forms), MiniTab Statistical Software, Literature database navigation, ArcGIS, ArcPad software, basic R script editing and running, Garmin Basecamp, Vectronics GPS Plus X.

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### **CONFERENCES ATTENDED**

2021 CDFW Mountain Lion Researchers Conference – UC Davis, August 31 – Sept. 1

2019 AFS &TWS Joint Conference - Reno, NV, Sept. 29 – Oct. 3

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### **PROFESSIONAL OUTREACH & PRESENTATIONS**

9/2021 CDFW Mountain Lion Researchers Conference Presentation

- Presented the data from the North Bay Mountain Lion Diet Study while drawing similarities and differences to the 2017 data collection period. Presented multiple thesis question ideas for input and potential collaboration.

1/2021 Wild Sheep Foundation Sheep Week “The Experience” Youth Wildlife Conservation Experience (YWCE) Presentation

- Online presentation to elementary and middle school students across the country that highlighted my wildlife career thus far and gave advice.

11/2020 Paul Smith’s College Chapter of the Wildlife Society Underclassmen Presentation

- Gave a presentation highlighting my professional work experience and gave advice to underclassman.

9/2019 Research Experience for Undergraduates (REU) Student Internship Experience

- Presented what I learned from my internship to the Paul Smith’s College Board of Directors.