

Dennis M. Ferraro

University of Nebraska-Lincoln
School of Natural Resources

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Professional & Life Function

To make a positive difference in maintenance & conservation of Natural Biodiversity with ALL my actions, teachings, and research. I'm a Biocentric Conservation Biologist focusing on native Herpetofauna.

Academic & Professional Positions

Professor of Practice

Assoc. Extension Professor

Extension Educator

County Extension Wildlife & Insect IPM,

University of Nebraska- Lincoln (July 2004 – Present)

University of Nebraska (October 2000 – June 2004)

University of Nebraska (October 1993 – October 2000)

Douglas County, NE. (April 1, 1990 - October 1993).

Education

PhD course work **only**; University of Nebraska –Lincoln Suspended in 1995

MS, University of Nebraska -Omaha, 1993.

Major: Biology - Wildlife

Thesis Title: Olfactory repellents in *Thamnophis radix* behavior

Assoc Sci, Entomological Society of America, 1984.

Urban Entomology

Research Title: Feeding depth analysis of Subterranean Termites.

MS, Iowa State University, 1981.

Major: Animal Ecology Emphasis: Herpetology

Thesis Title: Mimicry in Plethodont Salamanders

BS, Iowa State University, 1978.

Major: Zoology & Animal Ecology

Career experience

I have conducted herpetological surveys and monitoring projects in five states in the past 50 years. I conducted annual Herpetofauna surveys across Nebraska and have collected data on over 6,000 snakes, 5,000 amphibians, 610 turtles and 200 lizards in the past 45 years. I maintain the university's live animal lab of native Herpetofauna for research and educational purposes. I have developed health and medical protocol for their care. I maintain the state's herpetological website, "Amphibians, Turtles & Reptiles of Nebraska". I am a consultant on Herpetofauna for the Nebraska Game and Parks Commission's Natural Legacy Project. I conduct radio tracking and telemetry in reptiles, plus surgically implanting transmitters in snakes. I have an ongoing thirty-five-year Blanding's turtle and Prairie Rattlesnake study in the Sand Hills of Nebraska. Plus conduct amphibian disease tests in Nebraska

TEACHING

Formal Courses taught University of Nebraska – Lincoln [2020-2024]

NRES 474	Herpetology [undergrad]
NRES 874	Herpetology [graduate level]
NRES 211	Introduction to Conservation Biology,
NRES 222	Ecology Lab
NRES 348	Wildlife Damage Management,
NRES 368	Vertebrate Zoology
NRES 374	Field Herpetology, summer course.
NRES 399	Independent Research in Herpetology
NRES 492	Tropical Ecosystems & Ecology.
SCIL 101	Science and Decision-Making for a Complex World
TEAC 896	Master Naturalists for Teachers

Non-Credit Instruction

Certification, Ne Master Gardeners, 232 participants. (February 2010 - 2023)

Continuing Education, Nebraska Master Naturalist, 700 participants. (February 1, 2010 – Dec. 31, 2024).

Training camps for Nebraska Wildlife Rehab, 75 participants (May -July 2024)

Directed Experiential Teachings

UCARE Sage Veomett " The Effects of Diluted Fungicideon WesternTiger salamander Health" (Sept 2023 -Aug 2024)

UCARE: Nia Meyer "Ecological Insights into Translocated and Native Bullsnakes (*Pituophis catenifer*)" (May 20 – Aug.15, 2024)

UCARE; Nicholas Kowal "Nebraska's Short-horned (*Phrynosoma hernandesi*) Field Monitoring and Species Assessment" (May 15, 2020 - September 1, 2023)

UCARE: Jordan Wattles "Operant conditioning of American Alligator" (Aug. 15, 2022- April 15, 2023)

UCARE: Matthew Klein "Occupancy Analysis and Population Estimate of Herpetofaunal species of Niobrara Valley Preserve (May 20, 2020 - Mayr 20, 2023

Senior/Honors Thesis Abi Schoup 'Evaluating American bullfrog (*Lithobates catesbeianus*) tadpole exposure to neonicotinoid and fungicide agrochemicals in the landscape surrounding AltEn Ethanol' (May 15, 2020 - May 20, 2023)

Independent Research Caitlin Copenhaver " Dietary Variety Analyses in Blanding's Turtles *Emydoidea blandingii*" (January 25, 2022 - December 15, 2023

Cabela's Apprenticeship Alexis Moss " Genetic Data Collection & Analyses of Aberrant Gartersnake *Thamnophis radix* in Hall County NE" (March 15, 2021- May 1, 2022)

UCARE: Emma Chesley "Occupancy Analysis of Herpetofaunal species of Wagon Tongue Creek Preserve" (May 15, 2020 – April 15 2022)

Cabela's Apprenticeship, "Burrowing Owl and Associated Species Habitat Analysis and Restoration," School of Natural Resources. (May 15, 2018 - May 1, 2020).

Cabela's Apprenticeship, "The occupancy of *P. fasciatus* in Nebraska will be further expanded than currently determined.

Climate change has driven *P. fasciatus* populations to expand in Nebraska Sympatric speciation has led to the divided ranges of *P. fasciatus* and *P. septentrionalis*," School of Natural Resources. (May 25, 2019 - September 1, 2019).

Cabela's Apprenticeship, "Determine the occupancy of five at-risk species of native herpetofauna in the Big Bend region of the Platte River.," School of Natural Resources. (May 15, 2019 - September 1, 2019).

UCARE, "Calcium supplement in the diet of a Tiger Salamander is harmful to their eyesight.," School of Natural Resources. (August 15, 2019 - Present).

UCARE, "Determining how nicotine from cigarettes affects Plains leopard frog tadpole development," School of Natural Resources. (August 15, 2019 - Present).

UCARE, "Nebraska-native Western tiger salamander (*Ambystoma mavortium*). Research Question: reasoning behind its disappearance from the Southeast region of the state," School of Natural Resources. (May 15, 2018 - December 15, 2019).

UCARE, "Effects of Calcium Supplement on Captive Anurans," School of Natural Resources. (August 15, 2019 - December 10, 2019).

UCARE, "Grow rate of juvenile *Pituophis catenifer* snakes regarding diet," School of Natural Resources. (August 20, 2017 - May 1, 2019).

Professional Memberships

Herpetologists League. (January 1, 1993 - Present).

Kansas Herpetological Society. (January 1, 1995 - Present).

Partners for Amphibian & Reptile Conservation. (January 1, 2000 - Present).

The Wildlife Society. (February 1, 2005 - Present).

Society of Conservation Biology. (June 1, 2007 - Present).

Society for the Study of Amphibians and Reptiles. (February 20, 1985 - Present).

AWARDS & HONORS

UNL University-wide Outstanding Undergraduate Research Mentoring Award (2024)

CASNR HONORS Fellow (2024)

UNL Teaching Council/Parents Assoc. Contribution Award (2023) 8th yr

THE WILDLIFE SOCIETY National Conservation Teaching Award (2021)

Nebraska Natural Legacy Education Award (Oct. 2020)

Hollings Family Teaching Excellence Award (2017)

NATS Recognition to Contribution to Teachers of Science (2017)

CASNR Outstanding Teaching Award (2016)

RESEARCH Current

In 2024 serval new and revived some preceding research projects. Hired a graduate student to investigate the disjunct populations of Nebraska's native Yellow Mud turtle. Planned and set stage for a Snake Fungal Disease surveillance study across the state for 2025. I'm continuing to coordinate with colleagues from Arizona and California work on a large project that includes sites in Texas, Canada, and Nebraska. This is a project that investigate cline differences and climatic changes regarding native Prairie Rattlesnakes. I'm working with undergraduates to conduct herpetofaunal surveys that are follow-ups surveys I conducted two decades previously. I increased by four-fold my involvements in "BioBlitzs" at Nebraska Game & Parks properties.

Amphibians are an excellent "indicator species" of detrimental changes in the environment. Their semi-permeable skin, aquatic to terrestrial life history and exposed embryonic development extenuates them the ability to demonstrate the effects changes at very low levels. Therefore, a monitoring program of our state's amphibian populations is paramount in preventing the human chronic exposure to detrimental environmental conditions. A blueprint and protocol for research to determine the cause(s) of any amphibian decline or deformities were formulated and in place. Methodology to investigate these possible causes and their effect on humans and other wildlife were devised. In 2021, I continued a multifaceted investigation into the possible decline of the Western Barred Tiger salamander (*Ambystoma mavortium*) in southeastern Nebraska. My laboratory is conducting research related to 1) effects of soil contaminates 2) bio-acumination of contaminates in prey 3) landscape genetic 4) monitoring techniques and tracking of adults regarding this species.

Published Intellectual Contributions (most recent only)

Hladik, M.L., Schoup, A., **Ferraro, D.**, and VanWarmer, E., 2023, Pesticide Concentrations in American Bullfrog (*Lithobates catesbeianus*) Tadpoles Collected from Ponds and Reservoirs near Mead, Nebraska: U.S. Geological Survey

Malzahn, J.M., A.J. Caven, and **D.M. Ferraro. (2021)**. Habitat associations and activity patterns of herpetofauna in the Central Platte River Valley, Nebraska, with notes on morphometric characteristics. *Transactions of the Nebraska Academy of Sciences* 41: 88–105.

O'Connell, K. A., Maldonda, J., **Ferraro, D.M.**, Mulder, K. P. (2019). Sampling related individuals within ponds biases estimates of population structure in a pond-breeding amphibian. *Ecology and Evolution*, 2019(DOI:10.1002/ece3.4994), 1-17.

Contracts, Grants Awarded

Ferraro, D. (Principal Investigator), Nebraska Game & Parks Commission Herpetological expertise for Public events, Nature center husbandry and Native species research. \$72,000.00. (Jan 01, 2024 - June 30, 2027)
Ferraro, D. (Principal Investigator), "NMNP: Youth /Junior Program" Sponsored by Ne Environmental Trust, State Agencies, \$48,321.00. (July 01, 2021 - June 30, 2022)
Ferraro, D. (Principal Investigator), "Nebraska Master Naturalist Program," Sponsored by Ne Game & Parks Commission, State Agencies, \$40,000.00. (July 1, 2018 - June 30, 2019).
Ferraro, D. (Principal Investigator), "Master Naturalist PI Support," Sponsored by Ne Game & Parks Commission, State Agencies, \$36,000.00. (September 1, 2016 - June 30, 2019).
Ferraro, D. (Principal Investigator), "Ne Master Naturalist Fdn NMNP Coord Spt," Sponsored by Ne Master Naturalist Foundation, Associations/Foundations, \$70,000.00. (July 1, 2019 - June 01 2022).
Ferraro, D. (Principal Investigator), "NMNP: Expanding Capacity," Sponsored by Ne Environmental Trust, State Agencies, \$48,321.00. (April 26, 2019 - June 30, 2020).

University Service

Committee Chair, SNR Safety & Facilities Committee (August 15, 2019 – Aug 2024)
Committee Member, IACUC. (June 10, 2013 - Present).
Committee Member, CASNR POP Promotion (2019 – Present)
Program Organizer, Nebraska Master Naturalists. (January 1, 2010 – Dec. 2023).

Consulting

Government, Nebraska Game & Parks Commission, Nebraska. (1999 - Present)
Non-Governmental Organization (NGO), Omaha's Zoo, Omaha. (1998 - 2022).
Non-Governmental Organization (NGO), Nebraska Wildlife Rehab, Ashland NE. (2017 - Present).
Non-Governmental Organization (NGO), Amer. Assoc. of Veterinary Medicine. (2016 - Present).
Non-Governmental Organization (NGO), Capitol Humane Society, Lincoln, NE. (2015 - Present).
Government, Nebraska Poison Control Center, Omaha NE. (2015 - 2023).
Non-Governmental Organization (NGO), Pioneers Park Nature Center, Lincoln. (2014 - Present).