

DENNIS M. FERRARO Professor of Practice dferraro1@unl.edu
IANR – School of Natural Resources *University of Nebraska- Lincoln*

Education

- B.S. Zoology (Wildlife Biology), Iowa State University (1978)
- M.S. (course work) Graduate Research in Herpetology, Iowa State University (1980)
- Associate Certified Entomologist Purdue University Distance Education (1981)
- M.S. (thesis/completion) Biology (Herpetology), University of Nebraska-Omaha (1993)
 - PhD Course work & initiation under John Lynch University of Nebraska –Lincoln Suspended in 1995

Employment Experience

- 1993-present **Faculty, University of Nebraska-Lincoln**
 - 2013- 2017: Professor of Practice & Extension Wildlife Specialist
 - 2004 --2013: Extension Associate Professor (FTE split between Teaching and Extension).
 - 1993– 2004: Extension Educator – IPM, Nat. Res. & Wildlife (SREC)
- 1990 -1993 UNL County Extension Associate
- 1982-1989 Operations Manager, Atlas Pest Management Incorporated

TEACHING Accomplishments

- 2005 – Present: ‘Herpetology’ [NRES 474/874 4cr] Taught every Fall semester
 - eleven yr. average scores: Instructor =3.87 Class = 3.65
 - 2007 – Present: ‘Intro to Conservation Biology’ [NRES 211 3cr] Taught Fall & Spring semesters
 - nine yr. average scores: Instructor = 3.66 Class = 3.25
 - 2008 – Present: ‘Tropical Ecosystems [NRES 492 2 -3 cr.] Every Spring semester
 - ten yr. average scores: Instructor = 3.83 Class = 3.75
 - 2008 – Present: Independent Study Projects [NRES 399 1-3 cr.] ~ 2 /semester
 - 2013 – 2015 “Natural Resource Conservation in Society” [NRES 111 3cr] On-line course
 - 2014 – Present CASNR required introductory class [SCIL 101 3cr] on Science literacy and critical thinking
 - 2015 - Present “Resolving Human-Wildlife Conflicts” [NRES 348 3cr] Taught every Spring semester
 - 2017 - Natural Nebraska [TEAC 890 3cr] Taught as summer short session at CPBS
- **Additional Teaching Accomplishments:**
 - 2010 – Present: Provide day- long workshop for first year vet student on reptilian health care.
 - 2009 –Present: UNL Wildlife Club --- Faculty co-advisor
 - 2008 – Present: UCARE students 4 / year
 - Advise/mentor undergraduate students with Senior Thesis and Honor Thesis
 - Advise undergraduate and graduate student organizations
 - Guest lectures, over 20 times for other colleges and universities
 - Participated in recruitment, retention, and placement activities and teaching outcomes assessment instructional improvement and teaching scholarship.
 - Administer operations of the university’s lab of native herpetofauna for research and educational purposes. Developed health and medical protocol for their care. Supervise a staff of five student technicians whom maintain the lab.
- **Teaching Recognitions and Awards**
 - 2008 -- UNL Teaching Council/Parents Assoc. Contribution Award
 - 2009 - UNL Teaching Council/Parents Assoc. Contribution Award
 - 2010 - Hollng Family Teaching Excellence Award – Junior Faculty
 - 2011 -- UNL Teaching Council/Parents Assoc. Contribution Award
 - 2012 – CASNR Outstanding Teaching Award
 - 2014 - UNL Teaching Council/Parents Assoc. Contribution Award
 - 2015 - NATS Recognition to Contribution to Teachers of Science
 - 2016 - UNL Teaching Council/Parents Assoc. Contribution Award
 - 2017 - Hollng Family Teaching Excellence Award – Senior Faculty
 - 2017- UNL Teaching Council/Parents Assoc. Contribution Award

EXTENSION Impacts

Beginning in 2004 I initiated and head up a group that is developing the training protocol and materials for our state's new Master Naturalist program. I have been in contact with program naturalist leaders from many other states. I have gather input from ecological and wildlife experts at other universities and colleges across the state. I have received verbal commitment from two Natural Resource Districts to supply funds to produce the materials need for the programs training. I'm putting together a group of experts to go across the state and provide hands on training in the different eco regions of state for this program. In 2016 Nebraska Master Naturalists have contributed 3,541 hours of volunteer time valued at \$90,305 in conservation service. In their efforts, Nebraska Master Naturalists have connected with 23,619 Nebraskans and has impacted 968 acres across the state in direct conservation work. Since tracking began in fall 2010, Master Naturalists have contributed a total of 44,235 volunteer service hours valued at \$1,042,176. Explore. Contribute. Connect. These are the three elements that bring our community together. A local Master Naturalist Chapter in Omaha and Group in Lincoln have developed voluntarily to enhance the three elements of our mission. These groups have met four times this quarter, participating in Adopt-a-stream clean up, outreach events and land management work. The Nebraska Master Naturalist Program is now 356 members strong, with that comes great things. A core group of Naturalists and program partners came together to create our 2017 Nebraska Naturalist Calendar. This project is an outstanding example of what our Naturalists can do to educate and influence conservation in Nebraska. Naturalists assisted in outreach activities with Nebraska Game & Parks as well as Fontenelle Forest's Raptor Recovery at the State Fair. We made contact with 550 individuals at the Missouri River Expo. These events along with several others has impacted our visibility around the state. We also gained two new partners; Glacier Creek Preserve and Hitchcock Nature Center. These organizations will only further enhance training and conservation volunteer opportunities for our Naturalist volunteers. This conservation and education efforts across the state. This speaks volumes to your commitment to Nebraska's Natural Legacy. This program has shown to be fun, engaging and worthwhile to conservation and education in Nebraska. I worked with Nebraska Game & Parks Commission to establish a list of the amphibians and reptiles in Nebraska that would be consider "species in need of conservation" and that need critical habitat protection. I next incorporated identifications and habitat information relating to these species into educational display with verbal presentations for different age groups and audiences. I visited with the landowners and gave them a blueprint for conservation of particular species on their land. Thousands of Nebraskans young and old are now aware of the amphibian and reptile species that are in need of conservation in the state. Many landowners are armed with the information to conserve these fragile species and the state's natural resources that they and all of us depend on.

Amphibians, Turtles and Reptiles of Nebraska & "Ask the Herpetologist" website and electronic application was established in 2004. As creator and sole administrator of the vehicle I have responded to over 3,800 information requests (2004 -2014) from Nebraskans and people from around the world. In 2015 the website was completely updated to include Citizen Science components and data collection formats. It is now available as a "Field Guide on your smartphone & mobile device. The usage increased five-fold this first year. In 2016 over five county records and range extensions were determined from data associated with the website **Nebraska Extension Wildlife -- WILDLIFE.UNL.EDU** website and electronic application

I completed development and launched an entirely new Extension Wildlife website and app. It encompasses all my previous NebGuides as well as newly created video segments. Now, the public can utilize their computer or mobile device to identify damage or possible disease hazard from wildlife and vertebrate pest. The NU Extension site allows people to navigate and learn to how to safely and properly manage or eliminate the hazard. The positive feedback from Extension Educators and the public across the state has been tremendous. Educators are stating it is saving them hours of time when assisting clients.

RESEARCH Experience

I have conducted herpetological surveys and monitoring projects in five states in the past 25 years. I conducted annual Herpetofauna surveys across Nebraska and have collected data on over 3,700 snakes, 3,400 amphibians, 410 turtles and lizards in the past 19 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, "Reptiles and Amphibians of Nebraska". I am a consultant on Herpetofauna for the Nebraska Game and Parks Commission's Natural Legacy Project. I do radio tracking and telemetry in reptiles, plus surgically implanting transmitters in snakes. I have an ongoing nine-year Prairie Rattlesnake study in the Sand Hills of Nebraska and conduct amphibian disease and malformality tests in Nebraska.

Exposure to the salmonella bacteria and the effects it has on our society has been a prominent issue in everyday life in the past two years. While our food supply is the main emphasis of concern there has been a growing concern regarding pets. Reptile pets are increasing in popularity. There has been very little research on the transmission of salmonella from reptiles in the pet trade and humans especially children. I formulated a project and protocol for testing reptiles in local pet shops for the presents of the bacteria. All the pet shops in the greater Omaha area were approached; many (9) allowed the project in their facility. Animals and confinements tested over a three-month period. I incorporated an undergraduate UCARE student that was interested in herpetology to conduct the research. Data used to develop a plan and educational materials for the pet shops.

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 states 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 deformalities were formulated and in place. Methodology to investigate these possible causes and their effect on humans and other wildlife were devised. In 2016, 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.