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Tiger salamanders disappearing in region

By DENNIS FERRARO

"Where have all the salamanders gone?"

This is a question I have been increasingly asked over the past five to six years from area residents. It seems we are observing a dramatic population decline of the western barred tiger salamander in parts of Southeast Nebraska.

The western barred tiger salamander (*Ambystoma mavortium*) is one of only two salamanders in Nebraska. It hatches from eggs in mostly fishless, temporary ponds and bodies of water. For a segment of its life it is completely aquatic, having gills and feeding on small bugs and worms. It will grow in this stage to its full length of 10 to 12 inches. These larval salamanders are sometimes erroneously called "waterdogs" or "mudpuppies"

(which do NOT occur in Nebraska).

These salamander young can be used as fish bait. Those sold as bait are commonly imported from other states and not our exact species.

After three to 18 months, most of these aquatic larvae engage in metamorphosis and transform into adult terrestrial salamanders that live in moist soil, rodent burrows and root cellars for the next 25 years.

This salamander was previously common statewide in Nebraska. In the 1980s and '90s I recorded hundreds of these salamanders during nighttime spring rains migrating to ponds to reproduce. While I'm still recording hundreds in the western half of the state and found plenty in the northeastern quadrant, I have not been

able to trap or locate more than one individual, young or old, in the southeastern quarter of the state. Over the past two years I have had more than 100 salamander traps employed by students, citizen science volunteers and myself, yet none have been found in the southeast.

Last year I had my students poll more than 2,000 Nebraskans who live in or visit salamander habitat landscapes. All from the southeast had the same mantra: "I used to see dozens in years past but have not seen any in the past five years."

Therefore, with the help of my UNL research students, I vow to find the data that will tell why this wonderful creature is disappearing from our landscape. We are looking into ecological contaminations, habitat changes,

landscape genetics, natural evolutionary species shifts and much more.

Salamanders, like all amphibians, are excellent indicator species. In many cases they act like the iconic canary in the mine shaft, telling us when to run to safety. They are a vanguard against detrimental environmental hazards. If amphibians disappear, what will act as an indicator to alarm us of adverse changes that affect us all?

Plus, many young boys and girls that found these harmless creatures have gained a great appreciation of the natural world and a few may become a conservation biologist such as myself. I have many fond memories of finding dozens of salamanders as a 6-year-old.

Dennis Ferraro is a University of Nebraska-Lincoln herpetologist.