

Invasive Crayfish Collaborative Virtual Lightning Talks

Session 2: April 28, 2026

11:00 AM-12:15 PM CT

11:00-11:05: Introductions and Welcome

11:05-11:15 AM: "Evaluating toxicity of Alligator Gar (*Atractosteus spatula*) roe through consumption in two species of Oklahoma Crayfish"

Nick Barnes and Olive Shuyler, Oklahoma State University

Barnes and Shuyler challenged previous findings from 1980s studies that showed 100% mortality in crayfish fed alligator gar roe. Their study with *Procambarus acutus* and *P. simulans* found no mortality when crayfish consumed 2g of roe orally. However, when roe was injected with saline (0.5mL), 100% mortality occurred within two minutes, suggesting the toxicity pathway differs from oral consumption.

11:16-11:21 AM: "Detection, Surveillance, and Management of *Procambarus* Species in Ontario"

Brook Schryer, Ontario Federation of Anglers and Hunters

Schryer provided an overview of *Procambarus* species management in Ontario, where these crayfish are prohibited. White river crayfish were first confirmed in 2015 on Pelee Island, with no active management currently in place. Marbled crayfish, discovered in Burlington ponds in 2021 (likely from aquarium release), have been under active management including water level reduction and planned pesticide application. Red swamp crayfish were first detected in 2024 in a drainage ditch in southwest Ontario, with 104 specimens captured and active management beginning in spring 2026.

11:22-11:32 AM: "Early detection and rapid response to Red Swamp Crayfish in Michigan"

Justin Bopp, Michigan Department of Natural Resources

Bopp detailed the response to red swamp crayfish discovery at Wolf Lake Fish Hatchery in July 2025. Intensive trapping across 11 ponds captured specimens, and subsequent investigation suggested a hitchhiker pathway through fathead minnow trade from Arkansas. October 2025 genotyping results indicated an isolated event, with ancestry analysis clustering closely with Chicago populations linked to biological supply and pet trade pathways. Management included winter draining (which still found live specimens in January 2026) and planned pyrethrin-based pesticide treatments with post-treatment monitoring and eDNA sampling.

11:33-11:43 AM: "Would the real Rusty Crayfish please stand up? Genetic and Morphological Evidence of Cryptic Diversity in its Native Range"

David Hayes, Eastern Kentucky University

Hayes presented evidence of cryptic diversity within what has been considered "rusty crayfish," examining populations in Tennessee and North Carolina. COI analysis revealed highly divergent clades with different morphological patterns—some lacking the characteristic rusty spot. The

research suggests that *Faxonius juvenilis* may be the particularly aggressive species, with the aggressive traits potentially transferred to *F. rusticus* through ancient hybridization events following glacial retreat. Future work will expand sampling in native and presumed non-native regions using Diversity Arrays Technology (DArT) for genomic analysis.

11:44-11:54 AM: "Native or Not: Practical Application of Wisconsin's Crayfish Regulations"

Elizabeth Tanner and Patrick Siwula, Wisconsin Department of Natural Resources

Tanner and Siwula explained Wisconsin's unique "white list" approach to crayfish regulation under Chapter NR40. Rather than listing invasive species, all crayfish except seven native species (great plains crayfish, calico, clearwater, virile, white river, prairie, and digger) are prohibited. This creates a straightforward enforcement approach: if a crayfish isn't one of the seven native species, it's illegal. The presentation demonstrated practical application through examples like blue crayfish from the aquarium trade, using a rule-out process for identification.

11:55-12:00 PM: "Crayfish Trainings for Managers and Law Enforcement in the Great Lakes"

Natalia Szklaruk, Illinois-Indiana Sea Grant

Szklaruk reported on four crayfish monitoring workshops conducted by MSU and Illinois-Indiana Sea Grant in Fall 2025 across New York, Michigan, Illinois, and Minnesota. The workshops trained 108 conservation professionals through classroom instruction and hands-on work with live and preserved specimens. Pre- and post-workshop surveys showed knowledge gains, with identification of the areola improving from 33% to 95% accuracy. Illinois-Indiana Sea Grant is developing a survey for conservation officers to better understand enforcement needs.

Resources and Requests from participants:

Papers on genotyping similarities for red swamp crayfish:

<https://link.springer.com/article/10.1007/s10530-022-02938-9>

<https://onlinelibrary.wiley.com/doi/abs/10.1002/ece3.72550>

sophiane.nacer@gmail.com is interested in collaborating to create an ID guide for Western US crayfish.

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