Fighting for Survival

Bitter Lake Invertebrates

Koster's springsnail

Noel's amphipod

Pecos assiminea

Roswell springsnail

Photos: Brian Lang, New Mexico Department of Game and Fish

Invertebrate Sanctuary

Bitter Lake National Wildlife Refuge in Chaves County, New Mexico, is a place of unique ecological convergence where the Chihuahuan Desert meets the shortgrass prairie and the Pecos River flows through the Roswell artesian basin. The diverse waters of the Bitter Lake area—flowing streams, rivers, sinkholes, playa lakes, and brackish waters—shelter an incredible diversity of rare organisms, including the Koster's springsnail, Noel's amphipod, Pecos assiminea, and Roswell springsnail, all listed as endangered under the Endangered Species Act.

Dangerous Drilling and Development

Aquifer depletion and water contamination from development and oil and gas drilling in the Roswell Basin are the most important threats to these species. There are at least 190 oil wells surrounding Bitter Lake that could contaminate the aquifer underlying the refuge. Historic habitat for these invertebrates outside Bitter Lake has disappeared due to groundwater pumping and spring channelization. WildEarth Guardians fought to obtain the protections these animals now enjoy, and we will continue to advocate for responsible water use and against the proliferation of oil and gas drilling and unsustainable development that threatens Bitter Lake. Our vision for the whole of the West, not just Bitter Lake, is that of clear streams and springs free of pollution and home to their full complement of unique inhabitants.

Know Your Invertebrates

- **Tiny Treasures.** The largest of these animals, Noel's amphipod, may grow to the size of a lima bean, while the smallest, the Pecos assiminea, may only reach the size of a pencil point.
- **Amphipod Action.** During breeding season, amphipods form strong attachments to their mates—literally. Pairs may remain physically attached for 1 to 7 days, continuing to feed and swim.
- **Early Warning System.** These invertebrates are important ecological barometers of water quality. They are very sensitive to oxygen levels, water temperature, sedimentation and contamination. Their disappearance usually indicates the loss or degradation of a pristine spring or watercourse.
- **Different Strokes for Different Snails.** The Roswell springsnail and Koster's springsnail are fully aquatic, but the Pecos assiminea prefers humid habitat in wet mud or beneath mats of vegetation, typically within a few centimeters of running water (a long way for such a tiny creature). All three species feed on algae, bacteria, and decaying organic material, acting as a tiny clean-up squad.

WildEarth Guardians
A Force for Nature