# USACE Natural Resource Management

# Crustaceans

## Noel's Amphipod

**Noel's Amphipod *(Gammarus desperatus)*:** This amphipod was first described in 1981 from a 1967 collection of amphipods. Females are generally smaller than males. Females range in size from 0.34 — 0.5 inches while males range from 0.37 — 0.58 inches in length. The first pair of antennae are longer than the second. The posterior pair of abdominal appendages are well developed and biramous. (USFWS)

**Status:** *Endangered,* listed 2005

**NatureServe:** *Imperiled*

G2
Imperiled


*Photo: Map of species' NatureServe status by state.*

**Order:** Although amphipod species are predominantly marine, there are around 900 species worldwide which are known to occur in freshwater situations, including subterranean and surface waters. There are about 150 freshwater species of amphipod in the Americas. Some species are terrestrial, but require moist habitat. (NM Game & Fish, University of Florida)

*Photos Left to Right*: A Noel's amphipod specimen (USFWS), A Noel's amphipod specimen (USFWS)

**Management and Protection**:

- Noel's amphipod is constrained to karst water features including sink holes and springs, reliant on clean groundwater sources, within the Roswell Basin in southeastern New Mexico. This amphipod occurs within the Bitter Lake National Wildlife Refuge. (USFWS)
- In 2011, the USFWS designated critical habitat for Noel's amphipod.
- There is little new information on the biology and life history of these species, although recent efforts have attempted to monitor habitat associations and population responses to drought or other fluctuating conditions. (USFWS)
- Water quantity and water quality are the greatest threats to Noel's amphipod. Groundwater withdrawal could alter hydrologic characteristics of the spring systems which support this amphipod.
    - There is potential for increased impacts from drought and climate change. Climate related effects such as prolong drought and decreased spring water discharge could accelerate impacts to water quality and quantity. (USFWS)
        - Reducing populations of invasive plant species benefits this amphipod.

**USACE ROLE:** According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, the U.S. Army Corps of Engineers' Forth Worth District has incurred costs related to Noel's amphipod for Coordination and Determination purposes as well as other unspecified in-house costs. Noel's Amphipod has a very limited range and distribution. As result, few USACE projects are impacted by this small amphipod.

**What is USACE NRM Doing:** Located in southeastern New Mexico just 16 miles outside the city of Roswell is Albuquerque Districts' Two Rivers Dam, project. This dam is actually two distinct dams which are situated approximately 1.5 miles apart. This is the only project to list Noel's Amphipod in the FY20 NRM Assessment. The project noted that it has the potential for Noel's amphipod to occur on project lands. Here and across the nation USACE employees work to ensure that federally listed species, like Noel's amphipod, are not negatively impacted by project management actions.

*Photo, left:* A day-use area at the Two Rivers Dam Project located just outside Roswell, New Mexico.