

# Subterranean fauna capability statement



**Jarrad Clark**  
Director, Manager  
Terrestrial Fauna

Phoenix offers complete subterranean survey solutions that are well-planned and employ cutting edge, best practice field and laboratory methods that follow rigorous HSE standards. We deliver high quality reports and practical, scientifically-sound advice to manage subterranean fauna issues.

## ABOUT SUBTERRANEAN FAUNA

Subterranean fauna are animals (usually invertebrates) that live beneath the surface of the ground. They are usually classified into air breathing species (troglifauna) and aquatic species (stygo fauna).

Troglifauna inhabit cavernous networks within rock and alluvial sediments, and stygo fauna are usually associated with aquifers and the hyporheic zones (water logged sediments) of rivers and lakes.

Some subterranean species (troglites and stygo bites) are so specialised to life underground that they cannot survive anywhere else. They typically have no pigmentation, reduced or absent eyes and wings, elongated bodies and appendages, no circadian rhythms (regular day / night behaviours like sleeping) and greater sensory dependence on vibration.

Troglites and stygo bites are usually specialised to their habitat to the point

that they are incapable of dispersal and can be classified as extreme short-range endemics (SREs). Their usual small distributions also make these species vulnerable to modification of their habitat, through mining and water abstraction for example.

The EPA's objective for subterranean fauna are to ensure that important habitats are adequately protected and no species is threatened with extinction. In environmental impact assessment (EIA), proponents must demonstrate that they will meet these objectives according to *EPA's Guidance Statement 54, 'Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia'*

In Western Australia, the Pilbara and Yilgarn regions (including the WA Goldfields) have become known for their rich diversity of subterranean fauna. Limestone systems in southern WA also support significant subterranean fauna.

## INDUSTRY ISSUES

Sampling subterranean fauna habitats is challenging because there is limited access to the target fauna. Confusion arises from the fact that the extent of



**PHOENIX**  
ENVIRONMENTAL SCIENCES



