POST-FIRE RESPONSE PATTERNS OF INVERTEBRATES - ARE THEY PREDICTABLE?

Gordon Friend

Science and Information Division
Department of Conservation and Land Management
PO Box 51, Wanneroo, WA 6065

It is becoming increasingly recognised that invertebrates constitute much of the biodiversity in ecosystems and that they are critical to the maintenance of these systems. Indeed, certain guilds of invertebrates have potential as bio-indicators of environmental condition, including pyric status. A review of the available literature on the impact of fires on invertebrates, however, indicates that a wide variety of response pattern occur, and that these are often not consistent within taxonomic group or habitat type between different studies. In many instances invertebrate groups show marked locality, season and year-to-year effects which outweigh any changes attributable to fire. Furthermore, many inconsistencies seem to have arisen because of variations or shortcomings in experimental design, taxonomic treatment and length of study.

Given the inherent variability of invertebrate populations it is crucial that studies obtain pre and post-fire data over several years, and that they are standardised with respect to experimental design and taxonomic treatment. It is only by minimising/eliminating such experimental variability that we can determine whether the inconsistencies in outcomes are a true feature of invertebrate responses to fire, or are largely human-induced. This has important ramifications for the use of invertebrates in studies examining community stability and resilience.

ABSTRACTS

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