

## **Progress Report SP 2004-002**

# **Pilbara region biological survey**

## **Biogeography**

### **Project Core Team**

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### **Project status as of Dec. 20, 2017, 1:44 p.m.**

Closure pending approval of closure form

### **Document endorsements and approvals as of Dec. 20, 2017, 1:44 p.m.**

<b>Project Team</b>	granted
<b>Program Leader</b>	granted
<b>Directorate</b>	granted

## Pilbara region biological survey

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### Context

The Pilbara is an economically important region in Western Australia, with major and expanding mineral extraction and pastoral industries. Effective biodiversity conservation is required to minimise the adverse impacts of these activities and other threatening processes, such as altered fire regimes on the Pilbara's diverse flora and fauna. This survey addresses problems of incomplete knowledge of biodiversity (composition, patterns, status and trend) for nature conservation planning, including conservation reserve system gaps and weed invasions. Sampling includes reptiles, frogs, small ground mammals, bats, birds, arachnids, beetles, ants and aquatic invertebrates including stygofauna, wetland and terrestrial flora and soils, to overcome low cross-taxon congruence in biodiversity models.

### Aims

- Provide data on the distribution of the biota and a regional perspective on biodiversity and nature conservation priorities across the Pilbara.
- Identify gradients in community composition and the environmental factors related to these gradients.

### Progress

- A paper on the importance of habitat, connectivity and dispersal ability for Pilbara riverine aquatic invertebrate beta diversity was published.
- Aquatic invertebrate data is being used to analyse drivers of aquatic invertebrate beta diversity across the Australian arid zone.
- A further 3000 plant voucher collections have been lodged with the Western Australian Herbarium.
- Part 2 (hardcover volume) of Supplement 78, Records of the Western Australian Museum, collating reptile and frog, historical bird, stygofauna, aquatic flora, riparian flora and conservation gap analyses papers was published.
- Parts 1 and 2 of Supplement 78, Records of the Western Australian Museum (A biodiversity survey of the Pilbara Region of Western Australia), were officially launched.
- Four reptile taxonomic papers, including two revisions, were published.

### Management implications

- Survey information forms the basis for systematic regional nature conservation planning for the development of a conservation reserve system, and greater knowledge of the distribution and conservation status of species (indigenous and weeds) and ecological communities.
- The survey has provided an explicit, quantitative understanding of patterns in biodiversity across the Pilbara region as a regional context for environmental protection and land use planning. Voucher collections and plot based data sets that have been curated, identified and lodged in state natural history collections and data portals (NatureMap) provide baseline information for long-term ecological monitoring of the region.

### Future directions

- Complete and analyse the terrestrial flora matrix then draft and submit the flora paper for publication.
- Continue to undertake communication activities on survey findings and outputs.
- Upload all datasets to NatureMap.