

Progress Report SP 2012-005

Western Australian flora surveys

Ecosystem Science

Project Core Team

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Update requested

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Project Team

required

Program Leader

required

Directorate

required

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Context

Flora surveys of targeted areas provide knowledge of floristics and vegetation pattern and structure for a variety of purposes, including provision of baseline biodiversity data, monitoring of management effectiveness, understanding distributions of threatened taxa, defining threatened and priority communities, determining suitability of vegetation for fauna translocation and conservation operations such as fencing and stock control. Recent surveys have included the targeted survey of *Typhonium* in the Ord Valley.

Aims

- Undertake targeted surveys to provide specific management advice, monitor long-term change in vegetation at specific sites and specific communities, or fill specific knowledge gaps.

Progress

- Plot based data for gypsum plant communities, sampled during a collaboration with Spanish researchers as part of the GYPWORLD project, funded by the European Union, has been compiled following the completion of specimen identifications. Analysis is being planned by Spanish colleagues. Contribution to a worldwide phylogeny of *Frankenia* is ongoing.
- The contribution of DBCA staff to the *Typhonium* sp. Kununurra survey of the Ord Valley has included provision and curation of genetic material. Analysis and reporting of this work has been completed in conjunction with staff of the Australian Tropical Herbarium and reported to DPIRD. Lodgement of *Typhonium* material in the WA Herbarium has been completed.
- A project initiated in response to the Auditor General's review of salinity policy was undertaken. Populations of conservation significant flora and vegetation community plot data were overlayed on revised salinity mapping from CSIRO/DPIRD to determine salinity threat to flora and vegetation communities. Reporting in is draft stage.
- A project to reanalyse the floristic community data for the Swan Coastal Plain commenced, in conjunction with regional staff and Species and Communities program. Existing plot datasets supplementing the original Swan Coastal Plain Survey and System 6 surveys has been compiled. Preparation of the data is underway, requiring a lengthy process of standardizing taxonomy of entities across historical and more recent data. Analysis will focus on examining this expanded data set against the floristic communities types currently recognised for the region.
- Curation and lodgement of survey plant specimens is ongoing. Current priorities include Pilbara Biological Survey vascular aquatic plants and the extensive collections from plots sampled for GYPWORLD. Lodgement of priority listed taxa from recent survey work in the Ord Valley is progressing.

Management implications

- The *Typhonium* project will provide scientific input into the Ord-East Kimberley Development Project planning and approvals process.
- The analysis of salinity trends in relation to conservation significant flora and plant communities, coupled with an analysis of wetland salinity trends from the 40 years of data from the SWWMP data will inform DBCA's response to the Auditor General.
- Reanalysis of floristic data for the Swan Coastal Plain will provide a robust floristic classification for the vegetation of the region, and will enable a re-examination of the floristic community type currently listed for

the plain. This information is central to the planning and approvals processes assessing development and associated native vegetation clearing in the region.

- Specimen lodgement is a critical task, providing material for taxonomic research and distributional information for taxa.

Future directions

- In collaboration with European researchers undertake analysis of GYPWORLD plant community data and commence reporting.
- Complete reporting of analysis of salinity trends in response to Auditor general's report.
- Complete analysis and reporting of the updated analysis of floristic data for the Swan Coastal Plain.
- Maintain current impetus in the lodgement of voucher material.