

Progress Report SP 2011-018

Western Australian wetland fauna surveys

Wetlands Conservation

Project Core Team

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Project Team	granted
Program Leader	granted
Directorate	granted

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Context

Regional biological surveys provide analyses of biodiversity patterning for conservation planning at broader scales, but sites in these projects are usually too sparse for use at a more local scale, such as individual reserves, catchments or wetland complexes. This umbrella project is designed to fill gaps within and between the regional surveys by providing aquatic invertebrate biodiversity data and analyses at finer scales. Past examples of such projects are surveys of wetlands in the Drummond, Warden and Bryde Natural Diversity Recovery Catchments, the Hutt River/Hutt Lagoon catchments and the mound springs near Three Springs. This project runs on an 'as-needed' basis.

Aims

- Provide understanding of aquatic biodiversity patterning at the scale of individual wetlands to wetland complexes and catchments to inform local conservation planning and as baselines for future monitoring.
- Provide better data on the distribution, ecological tolerances and conservation status of aquatic fauna species and communities.

Progress

- Completed a brief report on aquatic invertebrates from the Brixton Street Threatened Ecological Community wetland for Swan Region.
- Published a paper on aquatic invertebrates of Goldfields wetlands sampled in 2014 following a rare summer rainfall event.
- Published paper on aquatic invertebrates of Cervantes to Coolimba area wetlands as part of an offset provided by CSR Gyprock.
- Re-scored fringing flora quadrats of wetlands in the Cervantes to Coolimba area and commenced work on a paper. Lodged voucher specimens in Western Australian Herbarium.
- Surveyed aquatic biodiversity of the springs and wetlands around Mandora Marsh (Walyarta), funded by BHP Billiton via the Kimberley Region, in Aug/Sept 2015 and identified ~85% of specimens.
- Continued to survey aquatic invertebrates and flora from wetlands in the middle to upper Fortescue Valley as part of a Pilbara Corridors - Rangelands NRM project. Work included identifying 95% of the invertebrate specimens and all of the flora specimens collected from wetlands on Mulga Downs station in 2014/15, surveying wetlands on Ethel Creek and Roy Hill stations and commencing identification of the resulting flora collection.

Management implications

- In the Cervantes to Coolimba wetland system the survey of wetland flora will assist with assessment of proposals to expand gypsum mining and determining the ecological water requirements of groundwater dependent ecosystems.
- The survey of aquatic invertebrates in Goldfields wetlands fills a gap in knowledge of biodiversity in an area still subject to intensive mining, thus allowing more informed assessment and approvals decision making.
- On the Swan Coastal Plain, fill a data gap (aquatic invertebrates in seasonal vegetated claypans) that will allow more informed land use planning.
- Information from the 2015 survey work on Mandora Marsh (Walyarta), combined with the baselining work completed there in 1999, will enable more informed conservation planning for the new Walyarta Conservation Park, including assessment of management actions taken to protect mound springs. Survey results will also

be used to report on the ecological character of the springs when reporting on this Ramsar wetlands to the Commonwealth.

- In the Fortescue Valley, surveys of wetland biota will inform efficient wetland conservation planning in an important area for wetland biodiversity in the Pilbara.

Future directions

- Publish paper on invertebrate diversity in vegetated claypans of south-west Western Australia.
- Publish meta-analyses of Western Australia arid zone invertebrate surveys.
- Complete paper on Cervantes to Coolimba area wetland flora.
- Complete identifications and supplementary molecular work for Mandora Marsh (Walyarta), analyse data and provide a report to the Kimberley Region.
- Complete identifications of already collected flora and fauna from the Pilbara Corridors project, survey additional wetlands on Roy Hill and Mount Florence stations and analyse data.