Dataset TITLE
Springs of Queensland - Distribution and Assessment (Version 4.0)

Dataset COMPILERS
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Dataset CUSTODIAN
Queensland Herbarium, Environmental Protection Agency

Dataset JURISDICTION
Queensland

Description ABSTRACT
The information presents some data from a survey of spring wetlands throughout many areas of Queensland. The field surveys were conducted between 1995-2002. The data is almost complete for some areas and incomplete for other areas (see Data Quality Lineage below).

Description SEARCH WORD(S)
Spring, wetland, Queensland

Description GEOGRAPHIC EXTENT NAME(S)
See region field

Dataset DATE
Aug 2005

Access STORED DATASET FORMAT(S)
Point locations
PROJECTION: Universal Transverse Mercator (UTM)
DATUM: GDA94

Access AVAILABLE FORMAT TYPE(S)
Excel spreadsheet, ArcView shapefile

Data Quality LINEAGE

Spring wetland criteria
This database only includes springs with a permanent discharge, although springs from within the GAB region that have become inactive within the period of European settlement are also included.

Data type
GPS + survey - Sites field surveyed and complete field data available as per Fensham and Fairfax (2003)[1]
Location only - Location recorded in field but complete field data not collected. These represent visited springs of little conservation significance or their conservation values are reflected by nearby spring wetlands for which field data is available

[1] The GPS location of the head of the spring and/or main vent; an estimate of the area of the spring-fed wetland; an estimate of the elevation and area of any mound; trampling damage by stock (0 absent, 1 <10% of wetland area affected, 2 10%-50% affected, 3 >50% affected);
Pig rooting (0 absent, 1 <10% of wetland area effected, 2 10%-50% affected, 3 >50% affected); excavation damage (0 none, 1 adjacent to spring wetland, 2 spring wetland less than 50% affected; 3 spring wetland more than 50% affected, but not totally eradicated; 4 spring wetland totally eradicated); a complete list of vascular plants was collated for each spring and voucher specimens lodged with the Queensland Herbarium.
Field water pH, temperature and conductivity were obtained for a subset of the surveyed springs. Water samples were taken from most springs and a soil sample collected adjacent to the wetland. The majority of springs were photographed and the authors have catalogued the images, which are lodged at the Queensland Herbarium. A subset of water samples representing the range of general locations and geomorphic settings was analysed for total dissolved solids, total hardness, Ca, Mg, Na, K, Si, S, F, Cl, Br, NO_3, PO_4 and SO_4. Water chemistry analytical methods followed procedures in Clesceri *et al.* (1998). Field texture of the soil samples was assessed according to the scheme of McDonald *et al.* (1990). Soil and water pH were determined using a Hanna HI 9023 microcomputer pH meter.

Not visited- Sites determined from sources described in Fensham and Fairfax (2003), but unsurveyed.

Site number
Database number for GPS + survey springs (Data type field)

Region (within Queensland)
This field relates to the broad location and comprehensiveness (almost complete, incomplete) of the data. Bioregions follow Sattler and Williams (1999).

GAB Great Artesian Basin springs emanating from the Great Artesian Basin (GAB) aquifers (Habermehl and Lau 1997). Almost complete for Queensland excluding Cape York Peninsula (see Fensham and Fairfax 2003).
Eastern Desert Uplands Areas straddling the boundary between the Desert Uplands and Brigalow Belt bioregions; outside the GAB; mostly associated with outcropping Dunda beds (incomplete)
Burnett Brigalow Belt bioregion; South-east of region outside GAB (incomplete)
Carnarvon basalt Brigalow Belt bioregion (Buckland Basalts sub-region); aquifers overlying GAB (incomplete)
Darling River Plain Brigalow Belt bioregion (Darling River Plain sub-region); aquifers overlying GAB (almost complete)
Western Desert Uplands Western end of Desert Uplands bioregion; aquifers overlying GAB (almost complete)
Donors Hill Gulf Plains bioregion (Donors Plateau sub-region); aquifers overlying GAB (incomplete)
Western Cape York Gulf Plains bioregion; northern end of region; aquifer overlying GAB (incomplete)
Einasleigh Einasleigh Uplands bioregion excluding GAB (incomplete)
Lawn Hill Northwest Highlands bioregion; northern end of region (almost complete for sandstone springs of region)
Mt. Isa Northwest Highlands bioregion; central area of region (incomplete)
Central Tertiary aquifers overlying the central GAB (incomplete)

Location (Latitude Longitude)
Spring locations are given in decimal degrees to three decimal places as this best reflects the positioning accuracy of the GPS technology employed during the survey. Locations for sites marked Not visited in the data type field have not been field surveyed and have variable accuracy depending on the data-source.

Active/Inactive
This field identifies whether springs are currently active or inactive. The inactive springs are only included for the Great Artesian Basin (Region). Inactive refers to a spring where no free water was visible at the ground surface.

NCA
Surveyed springs (S in origin field) that contain species listed within the *Nature Conservation (Wildlife) Regulation 1994* and therefore protected by the *Nature Conservation Act 1992*

References
Clesceri, L.S., Greenberg, A.E. and Eaton, A.D. (eds.) 1998. Standard Methods for the Examination of Water and Wastewater. American Public Health Association, Washington D.C., USA.

Fensham RJ, and Fairfax RJ (2003) Spring wetlands of the Great Artesian Basin, Queensland, Australia. *Wetlands Ecology and Management* **11**: 343–362.

Habermehl, M.A. and Lau, J.E. 1997. Hydrogeology of the Great Artesian Basin (Map at scale 1: 2 500 000). Australian Geological Survey Organisation, Canberra.

McDonald, R.C., Isbell, R.F., Speight, J.G., Walker, J. and Hopkins, M.S. 1990. Australian Soil and Land Survey: Field Handbook. Inkata Press, Melbourne.

Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queens land's Bioregional Ecosystems*. Environmental Protection Agency, Brisbane.

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