MAROOCHY SHIRE COUNCIL PLANNING SCHEME POLICY NO. 2

Ecological Assessment

1 Introduction

1.1 Purpose

The purpose of this Policy is to outline the information required in an Ecological Assessment Report.

Guidelines and information requirements are in Sections 2.0, 3.0, and 4.0.

1.2 Application of Policy

This Policy has been prepared to apply to all development pursuant to the Code for Nature Conservation and Biodiversity. An Ecological Assessment Report will be required where a development is likely to adversely impact on nature conservation and biodiversity values.

1.3 Expertise

The consultant(s) undertaking the ecological assessment should have appropriate qualifications in environmental science, zoology, botany, ecology or other related disciplines including demonstrated skills in fauna and flora species identification. The consultant(s) must also have demonstrated experience within the Southeast Queensland bioregion, in undertaking habitat assessments (including fauna surveys) and flora assessments.

Curriculum Vitae outlining the consultants' qualifications and experience must be included with the ecological assessment report.

1.4 Definitions

Opportunistic records – cover all fauna observations outside systematic survey times.

1.5 Other Reference Documents

There are a number of other reference documents that may need to be referred to in association with this Policy, they include the:

- Planning Scheme Policy No.3 Rehabilitation Plans.
- *Conservation Assessment and Management Plans for Coastal Bushland Remnants in Maroochy Shire*, Mary Maher and Associates 1997.
- *Conservation Assessment and Management Plans for Remnant Vegetation in Maroochy Shire*, Mary Maher and Associates 1999.
- *The latest version of remnant regional ecosystem mapping produced* by the Department of Natural Resources, Mines and Energy.
- Neldner, V.J, Wilson, B.A, Thompson, E.J., Dilewaard, H.A. 2004. *Draft Methodology for Survey and Mapping of Regional Ecosystem and Vegetation Communities in Queensland*, Queensland Herbarium: Brisbane (unpublished).
- McDonald, R.C., Isbell, R.F., Speight, J.G., Walker, J., Hopkins, M.S. 1990. *Australian Soil and Land Survey Field Handbook*, 2nd ed. Inkata Press: Sydney.
- South East Queensland Fire and Biodiversity Conservation. 2001. *The Role and Use of Fire for Biodiversity Conservation in South East Queensland: Fire Management Guidelines Derived From Ecological Research*, South East Queensland Fire and Biodiversity Consortium: Brisbane.
- Specht, R.L. 1981. *Foliage Projective Cover and Standing Biomass*: 10-21 in Gillison, A.N. and Anderson, D.J. (eds) *Vegetation Classification in Australia*, CSIRO and Australian National University Press, Canberra, pp. 10-21.

2 Ecological Assessment Report

2.1 Aim

The primary aim of the ecological assessment report is to assess the ecological significance of an area.

2.2 Information Requirements

The Ecological Assessment Report must outline the findings of the fauna surveys (refer to Section 3.0) and flora surveys (refer to Section 4.0)) and the nature conservation and biodiversity values of the site.

At a minimum the following information is required to be included in an Ecological Assessment Report:

(a) A description of the existing environment of the site and surrounding area, including its contribution to local, regional and state biodiversity values and any adjacent protected areas under the *Nature Conservation Act 1992*. This information should be in sufficient detail to allow the environmental impacts of the proposal to be accurately and adequately assessed;

(b) The full methodology used for both the flora and fauna assessments (including the scope and duration);

(c) Discussion of any limitations in the duration, scope and techniques of the flora and fauna survey work (eg surveying out of season for migratory birds);

(d) The results of the fauna survey (a full list of each species identified), expressed for each faunal group, including a summary description of the fauna values of the site, in which habitat areas they occur and the levels of abundance. Fauna species with the potential to be found in the area such as migratory species of regional and international importance should be listed;

(e) The identification of the habitat value of the site (including essential habitat for species of conservation significance under the *Nature Conservation Act 1992* or Fish Habitat Areas under the *Fisheries Act 1994*) and the presence/density per hectare of habitat trees including hollow bearing trees;

(f) The extent, type, diversity, integrity and function of the vegetation communities present (including details of all species identified, their growth form, richness, abundance, conservation significance and whether the species is endemic or at the limits of its geographic range), including the representativeness of the community on a local and regional scale and the extent of reservation outside protected areas;

(g) The regional ecosystems represented including the percentage of the site covered by each regional ecosystem and their status under the *Vegetation Management Act 1999*;

(h) Identification of the species of declared/ environmental weeds found on the site and their impact/level of disturbance;

(i) The relationship between the distribution of the fauna species and the different on-site vegetation associations should be discussed;

(j) The existence of ecological corridors and linkages (including 'stepping stones') and their integrity, connection and function within the surrounding landscape matrix; and

(k) An assessment of the need for controlled fire to maintain the biodiversity values of the vegetation. Reference should be made to the South East Queensland Fire and Biodiversity Consortium publication, *The Role and Use of Fire for Biodiversity Conservation in South East Queensland: Fire Management Guidelines Derived From Ecological Research*.

2.3 Plan(s) of the Sites Environmental Features

Plan(s) of the sites environmental features should include:

(a) Identification and extent of vegetation associations, including any regional ecosystems;

(b) Ecological corridors and linkage areas, including remnant vegetation on adjoining properties;

(c) Location of habitat/hollow bearing trees eg. active den and nest sites, the presence of tree hollows and obvious nests (particularly those of raptors);

(d) The location of critical habitat areas under the *Nature Conservation Act 1992, Commonwealth Environmental Protection and Biodiversity Conservation Act 1999*, declared Fish Habitat Areas and protected marine plants under the *Fisheries Act 1994*;

(e) Identification of any areas of infestations of declared and environmental weeds;

(f) Local drainage lines or watercourses (whether permanent or ephemeral), wetlands (freshwater and marine) and tidal lands;

(g) Topographical contours at 1 metre intervals in relation to Highest Astronomical Tide; and

(h) Any areas of erosion or land degradation.

Where there is more than one plan, the plans should be done as overlays where appropriate.

2.4 Plan of the Survey Plots/Transects for the Flora and Fauna Assessments

This plan must identify the location of the survey plots, transects or trapping devices used for the flora and fauna assessment. This plan must demonstrate that the full range of nature conservation and biodiversity values of the site have been surveyed.

2.5 Site Layout Plan

This plan must outline the full development layout including the area likely to be affected by the construction of buildings and associated infrastructure, and where relevant, ongoing operation of the proposed development. Areas of vegetation to be retained including in buffers and rehabilitation areas must be clearly outlined.

3 Terrestrial Fauna Survey

3.1 Aim

The primary aim of pre-development fauna surveys is to obtain information on the presence, distribution and function of species for the area, as well as those with the potential to occur in the area.

3.2 Temporal and Seasonal Considerations

The appropriate amount of time spent on a fauna survey will depend on the faunal and habitat diversity present on the site. The survey must be designed to maximise the faunal diversity encountered along the major environmental gradients of the site. Additionally each ecosystem represented on the site must be surveyed and a targeted survey for rare and threatened species likely to occur on the site must be conducted.

Where surveys are not able to undertaken during the appropriate season (eg for migratory birds) opportunistic records should be used.

3.3 Recommended Fauna Survey Methodologies

The following trapping devices and survey methods are outlined as a guide to what may be undertaken:

- Diurnal Search
- Pitfall Traps
- Opportunistic Records
- Spotlighting
- Elliot and Possum Traps
- Bird Surveys
- Harp Traps and Mist Nets
- Call Playback.

In cases of doubt over species identification, voucher specimens with full collection details should be sent to the Queensland Museum for identification.

Note: A scientific purposes permit is required for any survey methods that result in interference with native fauna. This permit is to be obtained from the Environmental Protection Agency prior to undertaking survey work.

4 Terrestrial Flora Survey

4.1 Aim

The primary aim of the flora survey is to assess the botanical composition and significance of an area.

4.2 Temporal and Seasonal Considerations

Sampling to include seasonal variation may be necessary to collect a full list of annuals, such as herbs and grasses. Where surveys cannot be undertaken during the appropriate season opportunistic records should be used.

The survey time would be dependent on the size, diversity of flora and accessibility of the site to be surveyed. The survey must be designed to maximise the floral diversity encountered along the major environmental gradients of the site including variation within a vegetation association or regional ecosystem. A targeted survey for rare and threatened species likely to occur on the site must be conducted.

Each ecosystem represented on the site must be surveyed and a combination of secondary and tertiary survey methods should be used as per the Queensland Herbarium publication – Draft Methodology for Survey and Mapping of Regional Ecosystem and Vegetation Communities in Queensland. The standard 10m x 50m plot should be adopted.

In order for results to be reproducible and to reduce variation between recorders, data collection must be quantifiable and objective. At a minimum data should be collected under the following headings:

(a) Site and location information;

(b) Landform;

(c) Slope/Aspect;

(d) Soils information;

(e) Geology;

(f) Ground cover;

(g) Structural information;

(h) Rainforest characteristics (if applicable);

(i) Disturbance (including declared and environmental weeds);

(j) Species Data;

(k) Habitat/hollow bearing trees; and

(l) Ecological condition/viability.

Standard terms for slope, aspect and position are provided in the *Australia Soil and Land Survey Field Handbook*.