

Eco-1 Ecological Value of Site



AIM OF CREDIT

To encourage and recognise development on land that has limited ecological value and to discourage development on ecologically valuable sites.

CREDIT CRITERIA

The Eco-Conditional Requirement is met where at the date of site purchase (see Compliance Requirements), the project site was not:

- On prime agricultural land. Where the project site was on prime agricultural land then the project is not eligible for a Green Star certified rating;
- On land containing old-growth forest. Where the project site was on land containing old growth forest then the project is not eligible for a Green Star certified rating;
- Within 100 metres of a wetland listed as being of 'high ecological value'. Where the project site was within 100 metres of a wetland listed as being of 'high ecological value', then the project can only be deemed eligible for a Green Star certified rating if the project is defined as a 'refurbishment' and the Wetland Protection Measures (as outlined below) have been completed;
- Within 100 metres of a wetland NOT listed as being of high ecological value. Where the project site was within 100 metres of a wetland NOT listed as being of high ecological value, then the project can only be deemed eligible for a Green Star certified rating if the Wetland Protection Measures (as outlined below) have been completed.

Wetland Protection Measures

- A site-specific Wetland Management Plan has been produced, exhibited and implemented;
- A minimum of 2 points are achieved in Emi-5 'Stormwater'; and
- All points are achieved in Emi-7 'Light Pollution'.

The Green Building Council of Australia reserves the right to provide the final ruling on a project's compliance with this Conditional Requirement.

COMPLIANCE REQUIREMENTS

The Eco-Conditional Requirement is to be applied to the state of the site that existed at the date of site purchase. In cases where the site has been owned by the current owner for more than five years (from the project's Green Star registration date), it is to be applied to the state of the site that existed at least five (but not more than ten years) prior to the project's Green Star registration date.

Note that the following documentation, required in the General section of the Green Star submission forms part of the Compliance Requirements for this Conditional Requirement:

Where the site has been owned by the current owner for less than five years (from the project's Green Star registration date):

- Scaled site plans OR aerial photographs generated prior to site purchase (but not more than ten years prior to site purchase), marked up as necessary to be clearly showing:
 - Whether the site was a greenfield or brownfield site, and whether it contained any buildings;
 - The footprint area of any buildings that existed on the site;
 - The land types that were present on site in accordance with Eco-4 Change of Ecological Value Calculator; and
 - The areas that existed in a radius no less than 100 metres around the site.

AND

- Evidence of site purchase clearly indicating the site purchase date and any relevant site attributes.

Where the site has been owned by the current owner for more than five years (from the project's Green Star registration date):

- Scaled site plans OR aerial photographs generated at least five years (but not more than ten years) prior to the project's Green Star registration date, marked up as necessary to be clearly showing:
 - Whether the site was a greenfield or brownfield site, and whether it contained any buildings;
 - The footprint area of any buildings that existed on the site;
 - The land types that were present on site in accordance with Eco-4 Change of Ecological Value Calculator; and
 - The areas that existed in a radius no less than 100 metres around the site.

AND

- Evidence of the fact that the site has been owned by the current owner for more than five years (from the project's Green Star registration date).

Project teams must ensure that the information in the Short Report is consistent with the information submitted in the General Section of the submission, and is referenced clearly.

The Certified Assessors will request additional information if there is doubt as to whether the area around the site contains a wetland.

Wetland Management Plan

The site-specific Wetland Management Plan must be:

- Prepared by a qualified Ecologist and include:
 - A clearly defined management objective to protect the wetland;
 - A description of the ecological values of the wetland;
 - A list of risks and threats to the conservation of the wetland values associated with the development;
 - The proposed risk-management actions for all construction and operation stages;

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- Assumptions and a statement of resources required i.e. budget and specific actions for the management response;
- Requirements for ongoing quarterly monitoring, annual reporting and management of the wetland ecosystem for a minimum of five years; and
- A statement regarding the operational timeframe of the Wetland Management Plan (minimum of five years).
- Exhibited to the public on the client's website, or the local council's offices or library for a minimum of 24 months. The 24 month period must start before construction of the project begins. The public display of the Wetland Management Plan must be easily accessible to the public and include an easy to read summary; and
- Included within the Development Application.

DOCUMENTATION: DESIGN RATING

Submit all the evidence and ensure it readily confirms compliance.

To demonstrate that the development was not on prime agricultural land, on land containing old-growth forest or within 100m of a wetland:

- ☐ Short report
- ☐ Aerial photographs/images of the site
- ☐ Extract(s) from current planning regulations of the relevant authority
- ☐ Zoning map

Where the development is new and within 100m of a wetland not listed as 'high ecological value'

-OR-

Where the development is a refurbishment and within 100m of a wetland listed as 'high ecological value':

- ☐ Short report
- ☐ Wetland Management Plan
- ☐ CV of qualified Ecologist
- ☐ Letter of confirmation from the building owner
- ☐ Extract(s) from website or correspondence from local library
- ☐ Extracts from the Development Application

Where the building is a refurbishment and within 100m of a wetland not listed as 'high ecological value':

- ☐ Short report
- ☐ CV of qualified Ecologist

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Short report:

- Describing:
 - The site and its location;
 - Whether the site contained any buildings at the date of site purchase or five years prior to the project's Green Star registration date;
 - Whether the site was on prime agricultural land at the date of site purchase or five years prior to the project's Green Star registration date;
 - Whether or not the site contained old-growth forest at the date of site purchase or five years prior to the project's Green Star registration date; and
 - The distance between the site and any surrounding wetland(s) at the date of site purchase or five years prior to the project's Green Star registration date.
 - Reference to documentation supplied in the General section of the submission is required. See Compliance Requirements.
- Where the development is within 100m of a wetland, the short report must be prepared by a qualified Ecologist describing any wetlands present on, or within 100m of the site, whether they are listed as 'high ecological value' or not as defined by this credit, and referencing the supporting documentation;
- Where a Wetland Management Plan is required, the short report must be prepared by a qualified Ecologist summarising the Wetland Management Plan and its recommendations;
- Where there are man-made Water Sensitive Urban Design (WSUD) elements (stormwater treatment systems) that are less than five years old on site, describing their location, and justifying the determination of their age.

Aerial photographs/images of the site generated at or before the date of site purchase, or if applicable, five years prior to the date of project registration, showing that the site:

- Was not on prime agricultural land;
- Did not contain old-growth forest; and
- Was not within 100m of a wetland.

Extract(s) from the current planning regulations of the relevant authority showing how the site was zoned prior to the project's Development Approval.

Zoning map showing how the site and surrounding area were zoned prior to the project's Development Approval.

Wetland Management Plan prepared by a qualified Ecologist – see Compliance Requirements.

CV of qualified Ecologist outlining relevant experience and number of years working as an active ecologist.

Letter of confirmation from the building owner stating their commitment to implement the Wetland Management Plan (as required by this credit), and describing the resources that will be allocated over the life of the plan to ensure implementation.

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Extract(s) from website or correspondence from local library demonstrating how the Wetland Management Plan will be made available to the public.

Extracts from the Development Application demonstrating the inclusion of the Wetland Management Plan, including its cover page, table of contents and first few pages.

DOCUMENTATION: AS BUILT RATING

Submit all the evidence and ensure it readily confirms compliance.

To demonstrate that the development was not on prime agricultural land, on land containing old-growth forest or within 100m of a wetland:

- ☐ Short report
- ☐ Aerial photographs/images of the site
- ☐ Extract(s) from current planning regulations of the relevant authority
- ☐ Zoning map

Where the development is new and within 100m of a wetland not listed as 'high ecological value'

-OR-

Where the development is a refurbishment and within 100m of a wetland listed as 'high ecological value':

- ☐ Short report
- ☐ Wetland Management Plan
- ☐ CV of qualified Ecologist
- ☐ Letter of confirmation from the building owner
- ☐ Extract(s) from website or correspondence from local library
- ☐ Extracts from the Development Application

Where the building is a refurbishment and within 100m of a wetland not listed as 'high ecological value':

- ☐ Short report
- ☐ CV of qualified Ecologist

Short report:

- Describing:
 - The site and its location;
 - Whether the site it contained any buildings at the date of site purchase or five years prior to the project's Green Star registration date;
 - Whether the site was on prime agricultural land at the date of site purchase or five years prior to the project's Green Star registration date;

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- Whether or not the site contained and old-growth forest at the date of site purchase or five years prior to the project's Green Star registration date;
- The distance between the site and any surrounding wetland(s) at the date of site purchase or five years prior to the project's Green Star registration date; and
- Reference to documentation supplied in the General section of the submission is required. See Compliance Requirements.
- Where the development is within 100m of a wetland, the short report must be prepared by a qualified Ecologist describing any wetlands present on, or within 100m of the site, whether they are listed as 'high ecological value' or not as defined by this credit, and referencing the supporting documentation;
- Where a Wetland Management Plan is required, the short report must be prepared by a qualified Ecologist summarising the Wetland Management Plan, its recommendations, and the works completed at the time of practical completion in accordance with such plan; and
- Where there are man-made Water Sensitive Urban Design (WSUD) elements (stormwater treatment systems) that are less than five years old on site, describing their location, and justifying the determination of their age.

Aerial photographs/images of the site generated at or before the date of site purchase, or if applicable, five years prior to the date of project registration, showing that the site:

- Was not on prime agricultural land;
- Did not contain old-growth forest; and
- Was not within 100m of a wetland.

Extract(s) from the current planning regulations of the relevant authority showing how the site was zoned prior to Development Approval.

Zoning map showing how the site and surrounding area was zoned prior to development approval.

Wetland Management Plan prepared by a qualified Ecologist – see Compliance Requirements.

CV of qualified Ecologist outlining relevant experience and number of years working as an active ecologist.

Letter of confirmation from the building owner stating their commitment to continue implementing the Wetland Management Plan (as required by this credit), and describing the recommendations implemented to date, and the resources that will be allocated over the life of the plan to ensure implementation.

Extract(s) from website or correspondence from local library demonstrating that the Wetland Management Plan has been made available to the public.

Extracts from the Development Application demonstrating the inclusion of the Wetland Management Plan, including its cover page, table of contents and first few pages.

ADDITIONAL GUIDANCE

New Development

A 'new development' is defined as a development on a greenfield site or a development that extends outside the footprint of any existing buildings on the site. Building extension projects do not automatically meet the Credit Criteria.

Prime Agricultural Land

'Prime agricultural land' is defined as land recognised for its high productivity value in agricultural production, based on the importance of specific land requirements for high value crops. The designation of prime agricultural land is done by referencing the appropriate state or local land use planning or environmental guidelines.

Where the relevant state or territory has either an arable land or an agricultural land class system, the project must NOT be on land where the current or previous class was either the first or second highest class in terms of arable or agricultural quality.

Old-Growth Forest

'Old-growth forest', as defined by the National Forest Policy Statement, is a *forest that is ecologically mature and has been subjected to negligible unnatural disturbance such as logging, roading and clearing. The definition focuses on forest in which the upper stratum or overstorey is in the late mature to overmature growth phases.*

Wetlands

The following definitions from the Queensland Environmental Protection Agency (2005) Wetland Mapping and Classification Methodology and the New South Wales Wetlands Policy (1996) are to be used. If either of these criteria is met then the area is considered to be a wetland for the purposes of this credit.

Wetlands are areas of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed 6 metres. To be classified as a wetland, the area must have one or more of the following attributes:

- i. At least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle, or*
- ii. The substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers, or*
- iii. The substratum is not soil and is saturated with water, or covered by water at some time.*

Wetlands, as defined by the NSW Wetlands Policy 1996, are areas that are wet for long enough periods that the plants and animals living in or near them are adapted to, and often dependent on, wet conditions for at least part of their life cycle. (NSW Wetlands Policy, 1996).

The Australian Wetland Database contains a list of all wetlands listed under either the Ramsar Convention on Wetlands (Ramsar) or the Directory of Important Wetlands in Australia.

Wetlands that are man-made Water Sensitive Urban Design (WSUD) elements (stormwater treatment systems) that are less than five years old (from the project's Green Star registration date), are excluded from the definition of wetlands for the purposes of this conditional requirement.

High Ecological Value Wetlands

For the purposes of this credit a wetland is considered a 'high value wetland' if it is:

- Deemed significant under a state or national register; OR
- A listed wetland under:
 - The Ramsar Convention on Wetlands; or
 - 'A Directory of Important Wetlands in Australia' (The Directory).

How to determine the ecological value of a wetland

The Ecologist's site assessment must be based on:

- Local, regional and state wetland mapping where available;
- The Ramsar Convention on Wetlands and The Directory listing;
- Aerial photography;
- Topographic mapping (to identify catchment areas and drainage patterns); and
- A site survey including assessment of the vegetation, soil and hydrological regime, against the definitions of wetland and wetland of 'high ecological value'.

Qualified Ecologist

A qualified Ecologist is considered to be an ecologist who has a degree in Ecology or similar and/or a minimum of five years continuous experience working as an ecologist. The ecologist must be independent and have no vested interest in the project.

Multiple Buildings Single Rating guidance

Table Eco-con 1: Multiple Buildings Single Rating guidance

Rating	Guidance
Design	No change from existing requirements.
As Built	No change from existing requirements.

BACKGROUND

The principal aim of the Land Use and Ecology Conditional Requirement is to minimise ecological degradation by encouraging the selection of sites for development that have low ecological value. Site selection is one of the easiest ways to gain positive environmental outcomes within the building industry.

Contaminated stormwater entering a wetland can damage its ecology and severely affect the flora and fauna living there. Meeting the pollution reduction targets in Column B of Table Emi-5.1 in the Green Star "Stormwater" credit is the minimum requirement to protect a natural wetland habitat. These pollution reduction targets are equivalent to the most stringent levels set in most State and Territory guidelines. Achieving these targets will ensure that any stormwater entering a wetland from the project site is clean, and will not cause environmental damage.

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Light Pollution in ecologically sensitive areas can have a more significant impact than in areas with limited ecological value. Nocturnal animals are particularly sensitive to this form of pollution as it impacts on their foraging, feeding and breeding activities. In a wetland habitat, excessive light at night time can reduce the value of the area as a breeding ground for migratory water birds, and other animals reliant on this type of habitat for their survival.

Forests are home to the majority of the world's terrestrial species, a significant number of which are threatened or endangered. In Australia alone, a total of 1287 forest-dwelling species are listed as vulnerable, endangered or threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (DAFF, 2008b). Old-growth forest provides habitat with specific ecological qualities that are not found in younger forest or in regenerating forest.

REFERENCES & FURTHER INFORMATION

- Information on the Ramsar Convention on Wetlands can be found at: <http://www.environment.gov.au/water/environmental/wetlands/ramsar/index.html>
- Directory listed wetlands can be found at: <http://www.environment.gov.au/water/publications/environmental/wetlands/directory.html>
- A searchable map of listed wetlands is available at: <http://www.environment.gov.au/erin/ert/index.html>
- ANZECC & MCFFA (1997), *Comprehensive, Adequate and Representative Reserve System for Forests in Australia*, Commonwealth of Australia, Canberra, Australia, www.daffa.gov.au/rfa/publications/reserve-system
- Department of Agriculture, Fisheries and Forestry (DAFF) (2008b), *Forests Australia; Conservation of Australia's Forests*, <http://adl.brs.gov.au/forestsaustralia/facts/conservation.html>
- Department of Agriculture, Fisheries and Forestry, National Forest Policy Statement, www.daffa.gov.au/forestry/policies/statement
- Department of the Environment and Water Resources, Australian Wetlands Database, www.environment.gov.au/water/publications/environmental/wetlands/database.index.html
- Department of Environment, Water, Heritage and the Arts, Criteria for determining important wetlands, www.environment.gov.au/water/publications/environmental/wetlands/database/key.html
- Department of Environment, Water, Heritage and the Arts, Directory of important wetlands in Australia www.environment.gov.au/water/publications/environmental/wetlands/database/key.html
- Department of Environment, Water, Heritage and the Arts, Environmental Reporting Tool www.environment.gov.au/erin/ert/index.html
- Environment Australia (2001), *A Directory of Important Wetlands in Australia*, Third Edition. Environment Australia, Canberra.

- Environmental Protection Agency (2005), Wetland Mapping and Classification Methodology – Overall Framework – A Method to Provide Baseline Mapping and Classification for Wetlands in Queensland, Version 1.2, Queensland Government, Brisbane. Available to download from www.epa.qld.gov.au/wetlandinfo/site/WetlandDefinitionstart/WetlandDefinitions.html
- New South Wales Department of Agriculture, Land Use and Planning, www.dpi.nsw.gov.au/agriculture
- Queensland EPA, 1999 State of the Environment – Land, www.epa.qld.gov.au/environmental_management/state_of_the_environment/state_of_the_environment_1999.
- South Australia Department for Environment and Heritage, Biodiversity homepage, www.denr.sa.gov.au/biodiversity/index.html
- Tasmania Resource Planning and Development Commission, State Policy on the Protection of Agricultural Land 2000, www.iris.tas.gov.au/planning_and_development
- The Ramsar Convention on Wetlands, www.ramsar.org
- Victoria Department of Sustainability and Environment, Flora and Fauna Guarantee Act 1988, www.dse.vic.gov.au/dse/index.htm
- Western Australia Department of Agriculture (1988), Technical Report 072, 'The Concept of Prime Agricultural Land: A Western Australian Perspective', Western Australia, Australia, www.agric.wa.gov.au/pls/portal30/docs/FOLDER/IKMP/LWE/RPM/LANDUP/TR072.pdf