



Ecosystems & Habitats

Regulated vegetation, regional ecosystems, wetlands and landscape connectivity.

How to use this handbook

This volume is the practitioner (site and technical) reference for the Ecosystems & Habitats factor. It sets out what Ecosystems & Habitats governs, every assessment element with its own process and controls, the Queensland and Commonwealth instruments that apply, and the primary metric for each element. It is decision support, not legal advice or a substitute for a site-specific assessment — confirm every regulatory point against the current instrument and, where a threshold is close or a critical exception applies, obtain specialist and legal review.

FIELD	DETAIL
Volume	03 of 17 — Environmental Knowledge Handbooks
Factor	Ecosystems & Habitats
Jurisdiction	Queensland, Australia
Edition	2026 · current at issue
Prepared by	Q TEN — Queensland Technical Excellence Network
Review	SME, spatial and legal review before reliance

Executive overview

Ecosystems and habitats determine much of a project's clearing footprint, offset liability and approval pathway. In Queensland the core controls are the Vegetation Management Act 1999 and the regional-ecosystem framework, the Nature Conservation Act 1992, wetland protection under the EPP (Water and Wetland Biodiversity), and, where impacts are significant, the Environmental Offsets Act 2014 and the Commonwealth EPBC Act 1999. The site-manager task is to map regulated vegetation and sensitive ecosystems early, avoid and minimise before offsetting, and hold the evidence that clearing stayed within what was assessed and approved.

Scope

Ecosystems & Habitats resolves into four secondary factors — Terrestrial Ecosystems; Aquatic and Wetland Ecosystems; Landscape Ecology; Ecosystem Management and Restoration — and twenty assessment elements. Every element is set out below with its own process and controls and its primary decision metric; identifiers are shared with the companion Knowledge System workbook and the platform calculators.

Assessment elements & process

Each assessment element below carries what it governs and its key pressures, the appropriate site process and controls, and the primary metric that measures it. Work every element that your project engages.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Regional Ecosystems <i>Regional ecosystem extent and condition</i>	Mapped regional ecosystems, their extent, condition and clearing regulation. Pressures: clearing, fragmentation, edge effects.	Map and ground-truth REs; establish the clearing basis; demarcate no-go areas; clear under supervision; offset residual loss.
Threatened Ecological Communities <i>Threatened community impact area</i>	Threatened ecological communities and their impact area. Pressures: clearing, degradation, edge and hydrological change.	Identify TECs; avoid and buffer; assess significance; obtain approval and offset where a significant impact remains.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Terrestrial Habitat Condition <i>Habitat condition score</i>	Condition of terrestrial habitat supporting biodiversity. Pressures: clearing, grazing, weeds, altered fire.	Score habitat condition; avoid high-condition areas; manage weeds, grazing and fire; rehabilitate to benchmark.
Old-growth and Hollow-bearing Habitat <i>Old-growth habitat and hollow density</i>	Old-growth and hollow-bearing habitat and hollow density. Pressures: clearing of mature trees, loss of hollows.	Identify old-growth and hollow-bearing trees; retain and buffer; provide replacement hollows; supervise any clearing.
Rocky Outcrops, Caves and Refugia <i>Refugia disturbance risk</i>	Rocky outcrops, caves and refugia. Pressures: excavation, blasting, disturbance of refuge habitat.	Map refugia; avoid and set exclusion zones; manage blasting and disturbance; monitor for use and impact.
Wetlands <i>Wetland extent and ecological character</i>	Natural wetlands, their hydrology and ecological character. Pressures: drainage, fill, altered hydrology, nutrients.	Map wetlands; protect buffers and hydrology; avoid fill and drainage; control sediment and nutrients; rehabilitate.
Riparian Ecosystems <i>Riparian condition and continuity</i>	Vegetated watercourse corridors and their continuity. Pressures: clearing, crossings, stock access, altered flow.	Retain and buffer riparian corridors to the standard; control crossings; revegetate; manage weeds and connectivity.
Freshwater Aquatic Habitat <i>Aquatic habitat condition index</i>	Freshwater aquatic habitat condition. Pressures: sediment, barriers, altered flow, loss of structure.	Assess aquatic habitat; maintain flow and passage; control sediment; retain in-stream structure; monitor condition.
Estuarine and Intertidal Habitat <i>Intertidal habitat extent and condition</i>	Estuarine and intertidal habitat extent and condition. Pressures: reclamation, altered tidal flow, sediment, contaminants.	Map intertidal habitat; avoid reclamation; maintain tidal exchange; control sediment and contaminants; monitor recovery.
Marine and Coastal Habitat <i>Marine habitat impact and recovery</i>	Marine and coastal habitat and its recovery. Pressures: dredging, disturbance, turbidity, physical loss.	Map and avoid sensitive marine habitat; control turbidity and disturbance; monitor impact and recovery; offset loss.
Habitat Connectivity <i>Connectivity index</i>	Landscape-scale habitat connectivity. Pressures: barriers, clearing, fragmentation.	Assess connectivity; retain and design corridors and crossings; avoid new barriers; monitor connectivity index.
Habitat Fragmentation <i>Fragmentation and core habitat index</i>	Fragmentation and loss of core habitat. Pressures: linear clearing, dissection, edge creation.	Consolidate the footprint; avoid dissecting intact habitat; retain core areas; measure fragmentation change.
Ecological Corridors and Stepping Stones <i>Corridor integrity score</i>	Ecological corridors and stepping-stone habitat. Pressures: gaps, clearing, degradation of links.	Identify and protect corridors and stepping stones; revegetate gaps; maintain corridor integrity.
Edge Effects and Ecotones <i>Edge-affected habitat area</i>	Edge effects and ecotone change. Pressures: new edges, weed and predator incursion, microclimate change.	Minimise new edge; buffer and manage edges; control weeds and predators; monitor edge-affected area.
Cumulative Landscape Change <i>Cumulative habitat change</i>	Cumulative landscape change across projects and time. Pressures: incremental clearing, regional loss.	Assess cumulative change in a regional context; avoid incremental loss; contribute to strategic offsets and monitoring.
Ecosystem Services and Dependencies <i>Critical ecosystem dependency score</i>	Ecosystem services and critical dependencies. Pressures: loss of function, over-use, degradation.	Identify critical ecosystem services and dependencies; avoid impairing them; manage and monitor the dependency.
Habitat Impact Assessment <i>Residual habitat impact</i>	Assessment of residual habitat impact. Pressures: unquantified impact, inadequate avoidance.	Apply the mitigation hierarchy; quantify residual impact; document avoidance and minimisation; determine offset need.
Ecological Restoration and Rehabilitation <i>Restoration trajectory against reference</i>	Ecological restoration and rehabilitation. Pressures: poor establishment, wrong species, weeds.	Set reference-based restoration criteria; use local provenance; manage weeds; monitor trajectory against reference.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Biodiversity Offsets and Compensatory Measures <i>Offset liability and delivery status</i>	Biodiversity offsets and compensatory measures. Pressures: unquantified liability, delivery failure.	Quantify offset liability early; secure and deliver offsets; track delivery status against approval conditions.
Ecosystem Monitoring and Adaptive Management <i>Monitoring coverage and trigger response</i>	Ecosystem monitoring and adaptive management. Pressures: inadequate monitoring, no trigger response.	Design monitoring to cover the values; set triggers and responses; act on exceedance; report and adapt.

Regulatory mapping

The instruments most often engaged for Ecosystems & Habitats. Confirm currency and application to the specific site and activity before relying on any entry.

INSTRUMENT	JURIS.	WHAT IT DOES	TYPICAL TRIGGER
Vegetation Management Act 1999	Qld	Regulates clearing of regulated (remnant/regrowth) native vegetation.	Clearing regulated vegetation, or an exemption reliance.
Nature Conservation Act 1992	Qld	Protects wildlife and protected areas; species and ecosystem values.	Impact on protected wildlife or a protected area.
EPP (Water and Wetland Biodiversity) 2019	Qld	Wetland and watercourse biodiversity values.	Impact on a mapped wetland or watercourse.
Environmental Offsets Act 2014	Qld	Environmental offsets for significant residual impacts.	A significant residual impact on a prescribed matter.
Planning Act 2016	Qld	Development assessment for vegetation and ecological matters.	Assessable development affecting ecological values.
EPBC Act 1999	Cth	MNES — threatened ecological communities, Ramsar wetlands.	Likely significant impact on an MNES.

Assurance & evidence

- **Source currency.** Confirm the instruments, criteria and trigger values cited are current and correctly applied to the site and activity.
- **Records.** For each element engaged, retain the assessment, the controls applied, monitoring against the metric, and any statutory notifications — the evidence that the process was followed.
- **Independent review.** Interpretations, threshold decisions and critical exceptions are reviewed by a suitably qualified person before reliance.

TALK TO QTEN

Managing ecosystems & habitats on a live project? QTEN helps Queensland clients turn this handbook into a defensible, evidence-backed position — scoping, assessment, controls, approvals and review. Bring us your site and we will help you get it right, and prove it.
admin@qten.com.au · 0422 407 079 · qten.com.au