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LANDSCAPE  
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E N V I R O N M E N T A L   P O L I C Y



LANDSCAPE DESIGN INSTITUTE

ACN 065 777 273

# Environmental Policy



ENVIRONMENTAL POLICY

INTRODUCTION

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# The Landscape Design Institute (LDI) is Australia's leading professional association for landscape designers and landscape management professionals.

LDI members acknowledge that we will only be truly relevant if we understand, appreciate and express the significance of the role we play in providing a better future for humanity and the planet.

The LDI Environmental Policy is for the use of:

- LDI members (to affirm their environmental awareness and promote their expertise)
- Clients (both public and private sector)
- Members of the public (as an educational reference)

This policy encompasses the landscape, cultural and natural, with the use of specific and perceived concepts. The landscape is the sum-total of the characteristics, both natural and resulting from human occupancy, that distinguish a certain area of the earth's surface from other areas. Cultural landscape is that which results from human intervention.

It realises the global importance of environmental management and the substantial impact that landscape designers and managers have on ecological regeneration - the process of renewal, restoration, and growth that makes ecosystems resilient to natural disturbances or other damage.

## LDI MEMBERS ARE COMMITTED TO:

- Behaving in an environmentally conscious manner, upholding professional standards and being prepared to inform public and government bodies of the importance of considering all impacts, direct and indirect, on the environment. This includes impacts on air, water and food (security – quality & availability) as well as land.
- Interacting with other professional bodies covering all aspects of the cultural and natural environment.
- Continuing their education relating to environmental practices.
- Designing and managing landscapes that adhere to the following principles:
  1. Increase biodiversity - the variety of all life forms including plants, animals, micro-organisms, the genes they contain and the ecosystems they live in, considering genetic diversity, species diversity and ecosystem diversity.
  2. Advance succession - the transition of existing plants, their leaves or fruit, to composition allowing for the growth of new plants.
  3. Regenerate the ecosystem, landscape, water and air
  4. Instill or restore a 'Sense of Meaningfulness' - Recognition of the cultural landscape including; combinations of landscape features, features of an area that are unique or one of a kind, features that are the best of their kind, complex outstanding features, a feature that if degraded or destroyed could not be recreated, features or areas that exhibit natural or cultural processes.
  5. Ensure efficient long-term use of resources and materials
  6. Raise community awareness and involvement
  7. Promote ecologically sound decision-making processes, principles and practices

# Principle One - Increase biodiversity, advance succession and regenerate the ecosystem

### LDI MEMBERS WILL INCREASE BIODIVERSITY BY:

- accepting that the many daily decisions and actions of land managers, at a local level, will cumulatively allow for biodiversity to be either increased or decreased/reduced.
- using design principles and management practices which allow for the regeneration and enhancement of the ecosystem (the complex, biological system of plants and animals, their habitats and the processes and relationships that occur within and between them) of the site by:
  - developing the CONTEXT (a brief with the client that clearly describes the desired future ecological, social and economic landscape)
  - identifying and evaluating the site as part of the initial site planning process
  - taking into consideration the impact of design and management decisions on ecosystems within or away from the site
  - actively promoting ecologically sustainable construction through the use of environmentally compatible materials
  - abiding by environmentally responsible soil, water and air regeneration practices
  - avoiding the use of toxic substances as an ongoing management tool and utilising the principles of Integrated Pest Management (IPM)- a documented control strategy that reduces the need for environmentally harmful spray regimes.
  - monitoring the landscape for any impact resulting from changes during the construction and maintenance liability period of the works
  - informing the client of issues that may arise as the landscape evolves and suggesting future mitigation/planning considerations

### Principle Two - Regenerating the landscape, water and air

LDI MEMBERS WILL PROMOTE AND SHARE RESPONSIBILITY FOR ENVIRONMENTAL PLANNING AND MANAGEMENT WITH OTHER ORGANISATIONS, GOVERNMENT AND NON-GOVERNMENT BY:

- maintaining an awareness of relevant policies, standards and treaties - international, national and local, testing and questioning policies and improving the outcome where possible.
- assisting in the regeneration of environments.
- encouraging the responsible design and management of land, air and water resources to increase water and nutrient cycling into the landscape.
- designing to enhance the natural hydrology to reverse erosion, siltation and sedimentation and mitigate other impacts (including fire hazards, temperature extremes, flooding, dust...) outside of the immediate location.
- ensuring and/or improving existing habitat and conditions for fauna (terrestrial, aquatic and/or marine) as well as soil life when developments are planned.
- ensuring that the selection and management of vegetation (including reducing the risk of fire) and materials are appropriate to the site and surrounding environment.
- observing the principles of Total Catchment Management (TCM) - the coordinated and sustainable use and management of land, water, vegetation and other natural resources on a water catchment basis to balance resource utilisation and resource conservation through the minimisation of land and soil

degradation and the maintenance of water yield and quality, and/or similar programs (LPM) throughout Australia:

- co-ordinate policies, programs and activities relating to TCM (or LDI's "Leading Practices & Management" (LPM)) develop and co-ordinate policies, programs and activities relating to LPM
  - identify and reverse natural resource degradation
  - promote the sustainable use of natural resources
  - provide stable and productive vegetation cover within water catchments
- following the principles of Integrated Pest Management including, wherever possible, avoiding the use of toxic substances.
  - managing the soil so as not to contribute to sodicity (a high measure of sodium & lower amounts of calcium & magnesium), salinity (the accumulation of free salts causing the degradation of vegetation and/or soils), acidity, acid-sulphate or other soil problems.
  - providing information and advice on decisions that may affect the natural environment or the cultural landscape.
  - seeking specialist advice when confronted with situations beyond their expertise

### Principle Three - Instill or restore a 'Sense of Meaningfulness'

LDI MEMBERS WILL ENDEAVOR TO RECOGNISE, MAINTAIN, OR RESTORE A 'SENSE OF MEANINGFULNESS' BY:

- advocating the regeneration of neglected, abused or threatened landscapes.
- recognising the identity of cultural landscapes and considering the *genius loci*, (the spirit of a place, the qualities and attributes that make it special) identifying the key features of the landscape perceived as being critical to its 'significance of place':

\* AESTHETIC

\* SCIENTIFIC

\* CULTURAL / SOCIAL

\* SACRED / SPIRITUAL

\* ECONOMIC

\* PRODUCTIVITY

\* ARCHAEOLOGICAL

\* LANDSCAPE CHARACTER, PHYSICAL FEATURES

\* SYMBOLIC

\* HISTORIC / LINKS WITH THE PAST

\* ECOLOGICAL / CONSERVATION

\* EDUCATIONAL / TOURISM

\* ECOSYSTEM / REGENERATION

\* HORTICULTURAL

(developed from the Burra Charter, 1981 (Updated 2013) - a framework for assessing landscape heritage value. It details how heritage sites can be conserved, restored or adapted.)

- investigating and interpreting historical data to determine cultural elements worthy of reservation or enhancement. By using defined evaluation and assessment criteria appropriate to the site, the validation of cultural values becomes objective. The community should be involved in this process whenever possible.

- recognising 'sense of meaningfulness' in design and management. In this way, the identity of the landscape is consolidated and its quality enhanced.
- protecting and restoring landscapes and components of landscapes that are of cultural significance.
- determining the natural features that are locally significant and then acknowledging them in design.
- designing and constructing in sympathy with the landform and being aware of the impact (the ecological, social, economic and aesthetic costs) of altering the soil and site hydrology (the water movement in relation to the land and soil).
- supporting legislation and the procedures used by heritage organisations to protect landscape heritage.
- encouraging landscape appreciation, designing and management of the site to reveal its inherent beauty while transcending limits to produce a place of true presence

### Principle Four - Ensure the efficient long-term use of resources and materials

LDI MEMBERS ENSURE APPROPRIATE DESIGN AND MATERIALS (RAW, RECYCLED, RECYCLABLE OR RENEWABLE) WHEN DESIGNING AND MANAGING THE LANDSCAPE TO MINIMISE WASTE AND ECOLOGICAL DAMAGE IN THE SHORT AND LONG TERM BY:

The re-use of materials.

- Designing to minimise total energy consumption.
- Using or re-using local product and/or materials
- Advocating the use of appropriate raw materials (previously unused or changed resources in their natural state) and resources that have originated through ethical and environmentally sound practices.
- Using renewable resources (those that are self-replacing) in preference to finite resources.
- Using recycled or recyclable materials or components (products transformed, or capable of being transformed from one form to another) where feasible.
- Following environmentally sound principles and practices for enhancing soil, water and air regeneration.
- Encouraging the use of environmentally friendly resources by other user groups

### PRINCIPLE FIVE - Raise community awareness and promote ecologically sound decision-making processes, principles and practices

LDI MEMBERS ARE ENCOURAGED TO EXPAND AND USE THEIR KNOWLEDGE, SKILLS AND EXPERIENCE TO PROMOTE ENVIRONMENTALLY SOUND PRACTICES IN THE COMMUNITY BY:

- participating in public education, campaigns and developing regeneration ethics
- using educational mediums to raise awareness of the natural environment and cultural landscape including:
  - promoting courses / seminars / public lectures
  - audio visual displays
  - written material (books, brochures, journal articles, posters)
  - non-written forms (story-telling, song-making)
- involving the community, as much as possible, in the evaluation, assessment, design, construction and management of landscapes in order to raise community awareness, develop a sense of responsibility towards the landscape and improve public attitudes and behaviour.
- lobbying those responsible for making decisions that affect the welfare of Australian landscapes.
- effective use of the media
- supporting environmental education and community awareness campaigns initiated by other organisations.

# DOCUMENT GLOSSARY

## **Acid-sulphate**

Soils which contain iron pyrite (naturally found in estuarine sediments) which on exposure to oxygen decomposes to form sulphuric acid. This can result in highly acidic soil and run - off conditions which have detrimental effects on plant growth, fish and aquatic organisms. Acid Sulphate conditions frequently occur when wetlands are drained. There are other, human induced, acidic soil problems.

Ref: Coastal Committee of NSW (1994) Draft Revised Coastal Policy for NSW.

## **Biodiversity**

The variety of all life forms including different plants, animals, micro-organisms, the genes they contain and the ecosystems they live in. It is usually considered at three different levels: genetic diversity, species diversity and ecosystem diversity.

## **Burra Charter**

A document produced in 1981 (latest ver. – 2013) that forms a framework for assessing landscape heritage value. It details how heritage sites can be conserved, restored or adapted. The document consists of definitions & principles with clearly defined articles for the conservation of places of cultural significance.

## **Cultural Landscape**

Landscapes resulting from human intervention

## **Ecosystem**

Refers to the complex, biological system of plants and animals, their habitats and the processes and relationships that occur within and between them.

## **Genius loci**

The spirit of a place. The qualities and attributes that make places special.

## **Hydrology**

The study of water and water movement in relation to land and soil.

## **Integrated Pest Management (IPM)**

A documented control strategy that reduces the need for environmentally harmful spray regimes. This is achieved by:

- **avoidance:** design & plant selection, resistant plants, species diversity, eliminate other hosts
- **cultural practices:** site preparation, timing of fertilising & watering, crop rotation

- **physical/mechanical:** hand removal, correct pruning & care, mechanical barriers
- **biological controls:** parasites & predators, microbial products, life cycle disruption
- **traps & baits:** pheromone traps, sticky band traps
- **chemical sprays:** horticultural oils, insecticidal soaps, synthetic chemical insecticides
- **companion planting**
- **naturally** allowing natural predator build-up

## **Landscape**

The sum total of the characteristics, both natural and resulting from human occupancy, that distinguish a certain area of the earth's surface from other areas.

## **Raw**

Previously unused or changed resources in their natural state.

## **Recyclable**

A product that is capable of being re-used.

## **Recycled**

Transformation of a product from one form to another. eg. timber to mulch, concrete to crushed rubble, asphalt to new paving, organic waste to fertiliser.

## **Regeneration**

The process of renewal, restoration, and growth that makes ecosystems resilient to natural disturbances or other damage.

## **Renewable**

Resources that are self-replacing. Generally not finite. eg. solar, wind, waves, tides, falling water, geothermal and biomass combustion.

## **Salinity**

The accumulation of free salts in part of a landscape to an extent which causes degradation of vegetation and/or soils. Typically caused by hydrological changes as a result of human use of land. Saline conditions can be one of the following:

- \* dry land salting (natural or induced)
- \* irrigation salting (induced)
- \* urban (induced) or
- \* estuarine (natural)

Ref: Houghton P. D & Chairman P. E (1986) Glossary of Terms used in Soil Conservation. Soil Conservation Service of NSW

## **Sense of Meaningfulness**

Recognition of the cultural landscape including; combinations of landscape features, features of an area that are unique or one of a kind, features that are the best of their kind, complex outstanding features, a feature that if degraded or destroyed could not be recreated, features or areas that exhibit natural or cultural processes.

## **Sodicity**

In soils, is a high measure of exchangeable sodium & lower amounts of calcium & magnesium. Difficult to manage, infiltration of water is slow, individual soil particles disperse when wet and the soil structure is poor. When it is dry, a crust forms on the surface making plant penetration difficult and on slopes these soils erode easily.

## **Succession**

The transition of existing plants, their leaves or fruit, to composition allowing for the growth of new plants. Succession includes communities or groupings of plant species within an area.

## **Total Catchment Management (TCM)**

The coordinated and sustainable use and management of land, water, vegetation and other natural resources on a water catchment basis.

Implementing TCM is necessary to balance resource utilisation and resource conservation through the minimisation of land and soil degradation and the maintenance of water yield and quality.

Ref: TCM Draft Framework for Natural Resource Management in NSW

## **TERMS TO FURTHER ENHANCE UNDERSTANDING OF THIS POLICY:**

### **Australia ICOMOS**

Australian International Charter for the Conservation and Restoration of Monuments and Sites (Venice 1966 and Moscow 1978)

### **assessment criteria**

A statement which provides a documented framework for assessing landscape heritage value. eg. Burra Charter (1981) or Rio De Janeiro Agenda 21 (1992).

### **Biological Ecosystem**

Refers to the complex, inseparable, biological dynamic that created and is fundamental to all life on earth. It's functions can be grouped into 1. Water Cycle, 2. Mineral/Nutrient/Element Cycle, 3. Living Things (Community Dynamics & Succession) & 4. Energy Flow. Note: The Biological Ecosystem will comprise of different communities and function differently in different environments and at different times. It is either degenerating or regenerating and cannot be conserved as a constant

### **conservation**

With reference to natural resources, is the provision for future need by the improvement and restoration to an economic balance during the present availability.

### **conservation ethic**

A standard of conduct for the conservation of the environment.

### **degraded environments**

The decline in the quality of the environment and natural resources commonly caused by human activities. ie. inappropriate land use.

Ref: Houghton P. D & Chairman P. E (1986) Glossary of Terms used in Soil Conservation. Soil Conservation Service of NSW

**ecologically sustainable**

The use of a species or ecosystem within the capacity of that species, ecosystem and bioregion for renewal or regeneration.

Ref: Draft National Strategy for the Conservation of Australia's Biological Diversity

**erosion**

The process by which the surface of the earth is worn away through the action of running water, wind, rainfall, ice or other geological factor.

**rehabilitation**

The treatment of degraded or disturbed land to achieve an agreed level of capability and stability, preferably at least equal to that which existed prior to degradation or disturbance.

Ref: Houghton P. D & Chairman P. E (1986) Glossary of Terms used in Soil Conservation. Soil Conservation Service NSW

**restoration**

Returning the existing physical material of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new materials. Ref: Burra Charter Article 1 Section 1.7 1981

**sedimentation**

Deposition of sediment. In soil conservation context, sedimentation is an end point in the erosion process, with transported soil material being deposited in locations such as in a channel, along a fence line, on an area of low slope or in a gully, creek, river, sediment trap or dam.

Ref: Houghton P. D & Chairman P. E (1986) Glossary of Terms used in Soil Conservation. Soil Conservation Service NSW

**siltation**

Refers to the deposition of silt particles, but is more commonly known as sedimentation.

**total energy consumption**

Managing energies entering the site from outside: sun, wind, fire and water. Utilising site sourced raw materials, in an ecological manner, in the design when possible. Correct choice and positioning of vegetation is as important as drainage, soil type, mulch, aspect, slope and the construction resources used, as this will dictate the frequency of maintenance & input of further energies eg. watering, fertilising, pruning, mulching or planting.

**Cultural Significance**

Aesthetic, historic, scientific or social values for past, present or future generations