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## Sustainable Gardening

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Sustainable gardening includes the more specific sustainable landscapes, sustainable landscape design, sustainable landscaping, sustainable landscape architecture, resulting in sustainable sites. It comprises a disparate group of horticultural interests that can share the aims and objectives associated with the international post-1980s sustainable development and sustainability programs developed to address the fact that humans are now using natural biophysical resources faster than they can be replenished by nature. Included within this are those home gardeners, and members of the landscape and nursery industries, and municipal authorities that integrate environmental, social, and economic factors to create a more sustainable future.

There is no uniform national standard for a sustainable landscaping project in the USA. Sites are rated according to their impact on ecosystem services: The following ecosystem services have been identified:

- Local climate regulation
- Air and water cleansing
- Water supply and regulation
- Erosion and sediment control
- Hazard mitigation
- Pollination
- Habitat functions
- Waste decomposition and treatment
- Global climate regulation
- Human health and well-being benefits
- Food and renewable non-food products
- Cultural benefits



INPUTS	OUTPUTS
Fossil fuels	Energy & water
Embodied energy and water	Food
Compost	Green waste
Ecology & biodiversity	Ecology & biodiversity
Fertilizer	Old hard landscape materials
Hard landscape materials	Old equipment
Products	Old products

## Principles

Enhancement of ecosystem services is encouraged throughout the life of any site by providing clear design, construction and management criteria. Sustainability requires that environmental, social and economic demands are integrated. Guidelines supplement existing green building guidelines and include metrics (benchmarks, audits, criteria, indexes etc.) that give some measure of sustainability (a rating system) by clarifying what is sustainable or not sustainable or, more likely, what is more or less sustainable.

Impacts of a site can be assessed and measured over any spatio-temporal scale. Impacts of a site may be direct by having direct measurable impacts on biodiversity and ecology at the site itself, or indirect when impacts occur away from the site.

The following are some site principles for sustainable gardening:

### Site Principles

- do no harm
- use the Precautionary principle
- design with nature and culture
- use a decision-making hierarchy of preservation, conservation, and regeneration
- provide regenerative systems as intergenerational equity
- support a living process
- use a system thinking approach
- use a collaborative and ethical approach
- maintain integrity in leadership and research
- foster environmental stewardship

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### Measuring Site Sustainability

One major feature distinguishing sustainable gardens, landscapes and sites from other similar enterprises is the quantification of site sustainability by establishing performance benchmarks. Because sustainability is such a broad concept the environmental impacts of



sites can be categorized in numerous ways depending on the purpose for which the figures are required. The process can include minimizing negative environmental impacts and maximizing positive impacts. As currently applied the environment is usually given priority over social and economic factors which may be added in or regarded as an inevitable and integral part of the management process. A home gardener is likely to use simpler metrics than a professional landscaper.

Three methods for measuring site sustainability include BREEAM developed by the BRE organization in the UK, Led, developed in America and the Oxford 360 degree sustainability Index used in Oxford Park and developed by the Oxford Sustainable Group in Scandinavia.

## References

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