

THE SUSTAINABLE SITES INITIATIVE







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Interdisciplinary effort to create **voluntary national standards** for sustainable land design, construction and maintenance practices with the intention of **supplementing existing green building and landscape guidelines** as well as becoming a **stand-alone tool for site sustainability.**




GUIDING PRINCIPLES

- Do no harm**
- Use the precautionary principle
- Design with nature and culture**
- Use a decision-making hierarchy of preservation, restoration and regeneration
- Provide regenerative systems as intergenerational equity**
- Support a living process
- Use a systems thinking approach**
- Use a collaborative and ethical approach
- Maintain integrity in leadership and research**
- Instill a sense of stewardship



PARTICIPANTS

American Society of Landscape Architects
 Lady Bird Johnson Wildflower Center
 United States Botanic Garden
 U.S. Green Building Council
 U.S. Environmental Protection Agency, GreenScapes Program
 National Recreation and Park Association
 National Association of County and City Health Officials
 The Nature Conservancy, Global Invasive Species Team
 University of Texas at Austin, Center for Sustainable Development
 American Society of Civil Engineers, Environment and Water Resources Institute



POTENTIAL PROJECTS TYPES

- parks, trails, campgrounds
- industrial and office parks
- govt. & medical complexes
- conservation easements
- botanical gardens
- university campuses
- residential sites
- streetscapes & plazas





Water in the United States is up 209 percent since 1950, irrigation of unsustainable landscapes accounts for more than a third of residential water use—more than 7 billion gallons per day nationwide

"Why Water Efficiency," U.S. Environmental Protection Agency, <http://www.EPA.gov/WaterSense/water/why.htm> (2007).



In 2007, approximately 33 million tons of yard waste entered the municipal waste stream, representing 13 percent of total municipal waste in the United States.



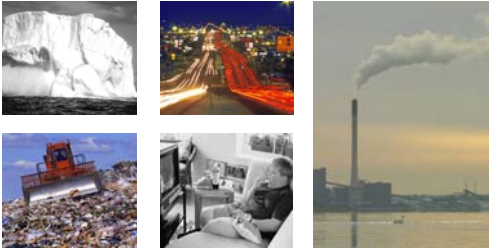
Around the country, polluted and contaminated stormwater runoff accounts for 70 percent of water pollution in urban areas and is the leading cause of poor water quality and the degradation of aquatic habitat.

S Loizeaux-Bennet, "Stormwater and nonpoint-source runoff: A primer on stormwater management," *Erosion Control* 6, no. 7 (1999): 56-69.



Sediment runoff rates from construction sites can be up to 20 times greater than agricultural sediment loss rates and 1,000 to 2,000 greater than those of forested lands.

TIME FOR CHANGE



Human needs and a healthy environment are not opposing claims that must be balanced; instead, they are inexorably linked by chains of cause and effect. We need a healthy environment because we need clean water, clean air, food, and wood . . . ~ Jared Diamond, biologist, 2003



Environment Economy Equity

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. *Brundtland Report, Our Common Future, 1987*



Taking lead out of gasoline in the 1970's has led to a 97 percent drop in ambient levels of lead. For all practical purposes, it has been eliminated as an airborne health risk.
Cascade Policy Institute, Clean Air: An Environmental Success Story

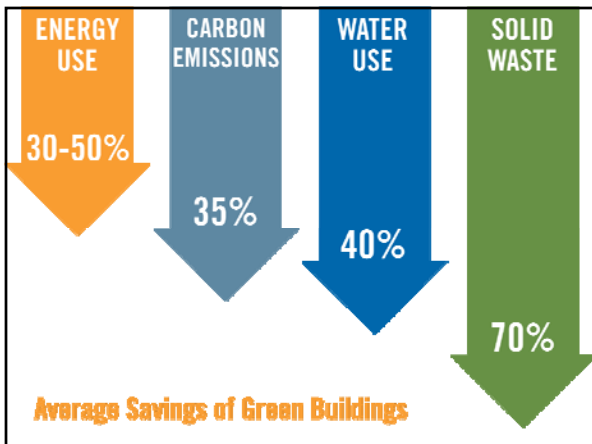


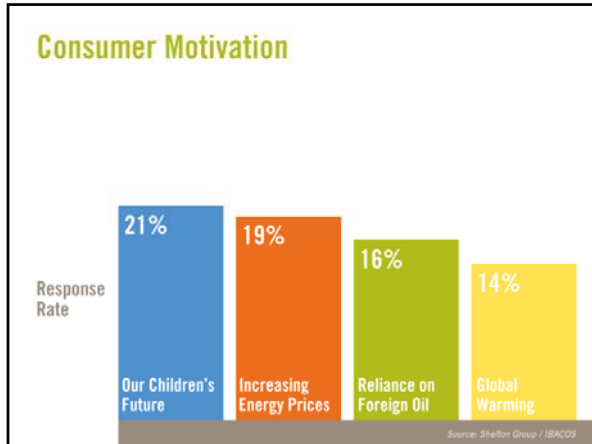
The American peregrine falcon had an estimated 324 nesting pairs in North America in 1975. In 2008 there is an estimated 2500 breeding pairs.
U.S. Fish and Wildlife Service

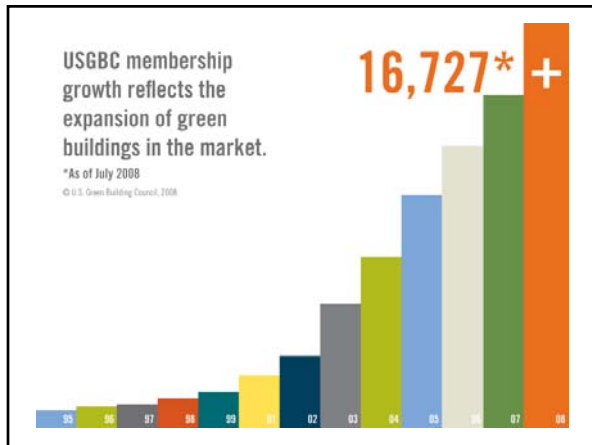


Twenty-five years ago, only one-third of the nation's waters were safe for fishing and swimming. Today, two-thirds of our waters are safe for fishing and swimming.

Water Environment Federation. Profiles in Water Quality: Clear Success, Continued Challenge.







August 30, 2007

Sustainable Sites Initiative Partners
University of Texas at Austin
Lady Bird Johnson Wildflower Center
4801 La Crosse Avenue
Austin, TX 78739

Dear Sustainable Sites Initiative Partners:

On behalf of the U.S. Green Building Council (USGBC), I would like to express our support for the Sustainable Sites Initiative. USGBC agrees that landscape design and maintenance are integral to sustainable development, and we are committed to the continuous improvement of LEED, and to the advancement of green building practice as a whole.

Based on USGBC program, I believe that your team of experts are developing will be an important addition to our collective knowledge, and we look forward to incorporating them in the future evolution of LEED.

Sincerely,
S. Richard Furbush
President, CEO & Founding Chairman

**THE SUSTAINABLE SITES INITIATIVE
& LEED**

How Does the Initiative Fit into LEED?

- Carbon and Ecosystem Services
- LEED Committee Review
- Sustainable Sites Credits
- Water Efficiency Credits
- Materials & Resources Credits
- Bookshelf







Restore our natural capital

Air	Culture	Climate	Water	Food
				

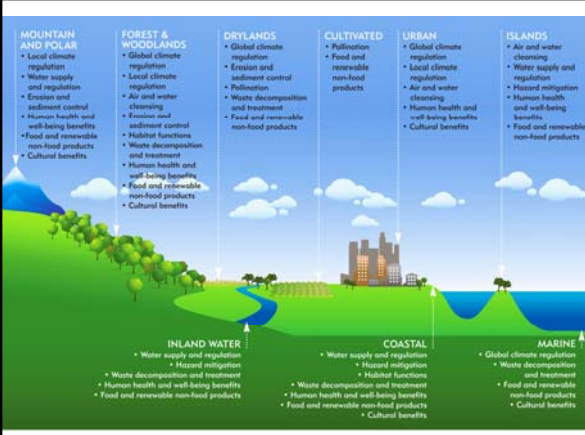
Ecosystem Services
Benefits natural systems provide that support our lives
\$16 - \$54 trillion per/yr. Twice the Global GNP

TECHNICAL SUBCOMMITTEES

Robert Goo Nonpoint-Source Control Branch, US EPA	Susan D. Day, Ph.D. Dept. of Forestry, Virginia Tech
William Hunt, Ph.D., P.E. Urban Stormwater Mgmt., North Carolina State Univ.	John Peter Thompson Behnke Nurseries Co.
Tom Liptan, ASLA City of Portland Bureau of Environmental Services	Kathleen L. Wolf, Ph.D. College of Forest Resources, University of Wash.
James Patchett/ David Yocca Conservation Design Forum	Elaine Ingham, Ph.D Soil Foodweb, Inc.
Nina Bassuk, Ph.D. Urban Horticulture Institute, Cornell Univ.	James Urban, FASLA Urban Trees + Soil
Jacob Blue, RLA, ASLA Applied Ecological Services	Meg Calkins, RLA, ASLA Dept. of Landscape Architecture, Ball State Univ.
Mark Simmons, Ph.D. Lady Bird Johnson Wildflower Center Univ. of Texas at Austin	Kimberly Cochran, Ph.D. Office of Solid Waste, US EPA
	Nora Goldstein BioCycle Magazine



MOUNTAIN AND POLAR	FOREST & WOODLANDS	DRYLANDS	CULTIVATED	URBAN	ISLANDS
<ul style="list-style-type: none"> Global climate regulation Local climate regulation Water supply and regulation Erosion and sediment control Human health and well-being benefits Food and renewable non-food products Cultural benefits 	<ul style="list-style-type: none"> Global climate regulation Local climate regulation Air and water cleansing Erosion and sediment control Hublot functions Waste decomposition and treatment Human health and well-being benefits Food and renewable non-food products Cultural benefits 	<ul style="list-style-type: none"> Global climate regulation Erosion and sediment control Pollution Waste decomposition and treatment Food and renewable non-food products 	<ul style="list-style-type: none"> Pollution Food and renewable non-food products 	<ul style="list-style-type: none"> Global climate regulation Local climate regulation Air and water cleansing Human health and well-being benefits Cultural benefits 	<ul style="list-style-type: none"> Air and water cleansing Water supply and regulation Hazard mitigation Human health and well-being benefits Food and renewable non-food products
INLAND WATER	COASTAL	MARINE			
<ul style="list-style-type: none"> Water supply and regulation Hazard mitigation Waste decomposition and treatment Human health and well-being benefits Food and renewable non-food products 	<ul style="list-style-type: none"> Water supply and regulation Hazard mitigation Hublot functions Waste decomposition and treatment Human health and well-being benefits Food and renewable non-food products Cultural benefits 	<ul style="list-style-type: none"> Global climate regulation Waste decomposition and treatment Food and renewable non-food products Cultural benefits 			



The diagram is divided into three columns: BROWNFIELD, GREYFIELD, and GREENFIELD. Each column features a representative image at the top and a central star-shaped diagram below. The BROWNFIELD star is white, GREYFIELD is light green, and GREENFIELD is dark green. Each star has eight points, each labeled with an ecosystem service: Provide cultural benefits, Regulate climate, Control erosion/retain sediment, Cleanse air and water, Regulate water supply, Provide health benefits, Decompose waste, and Mitigate hazards. The text 'All sites CAN provide ecosystem services' is centered at the bottom of the diagram.


All sites **CAN** provide ecosystem services

A close-up photograph of a silver shovel digging into dark brown soil. The background is a bright blue sky.

How can a site protect or enhance ecosystem services throughout the life of the project ?

The cover of a report titled 'THE SUSTAINABLE SITES INITIATIVE'. The top half features a green silhouette of a city skyline. Below this is a photograph of a park with people walking and a river. The bottom half is a blue box with white text: 'GUIDELINES AND PERFORMANCE BENCHMARKS DRAFT 2008'. At the very bottom, it lists 'American Society of Landscape Architects' and 'Lord Bird Johnson Willinger Center, University of Texas at Austin'.

Guidelines and Performance Benchmarks	Site Selection <i>Preserve existing resources and repair damaged systems</i>
	Pre-Design Assessment and Planning <i>Plan for sustainability from the onset of the project</i>
	Site Design - Ecological Component <i>Protect and Restore site processes and systems</i>
	Site Design Human Health Component <i>Build communities and a sense of stewardship</i>
	Site Design - Materials Selection <i>Reuse/recycle and support sustainable production practices</i>
	Construction <i>Minimize effects of construction related activities</i>
	Operations and Maintenance <i>Maintain the site for long-term sustainability</i>

BENCHMARK LAYOUT		Standards & Guidelines 2008 Draft Report
Title	Intent	
	Ecosystem services addressed:	
	Economic and social benefits:	
	Requirements:	
	Suggested submittal documentation:	
	Technologies and strategies:	
	Resources:	


PRE-REQUISITES		Standards & Guidelines 2008 Draft Report
1.	Preserve Threatened or Endangered Species Habitats	
2.	Preserve Floodplain Functions of Riparian and Coastal Zones	
3.	Limit Disturbance of Prime Farmland Soils	
4.	Conduct a Pre-Design Site Assessment	
5.	Develop a Program Plan and Performance Goals	
6.	Use an Integrated Design Team	
7.	Control and Manage Invasive Species	
8.	Use Appropriate, Non-Invasive and Legally Harvested Plants	
9.	Preserve Special Status Trees	
10.	Reduce Potable Water Consumption for Irrigation	
11.	Use No Lumber from Threatened Tree Species	
12.	Create a Soils Management Plan	
13.	Restore Soils Disturbed During Construction	
14.	Plan for Sustainable Landscape Maintenance	

PRE-REQUISITE Standards & Guidelines
2008 Draft Report

USE AN INTEGRATED DESIGN TEAM

Involves multiple disciplines and stakeholders, especially during initial stages of planning

Economic and Social benefit:
INNOVATION and COST SAVINGS are more likely to be achieved when a DIVERSE GROUP OF EXPERTS are WORKING TOGETHER towards COMMON GOALS



PRE-REQUISITE Standards & Guidelines
2008 Draft Report

CONDUCT PRE-DESIGN SITE ASSESSMENT

Inform decisions and guide the design, construction, operation, and maintenance phases.

What Information do I Collect?

- Dominant vegetation & soils
- Water Resources
- Reference Conditions
- Major Habitat
- Areas of Contamination
- Inventory of Materials
- Site Context within Region



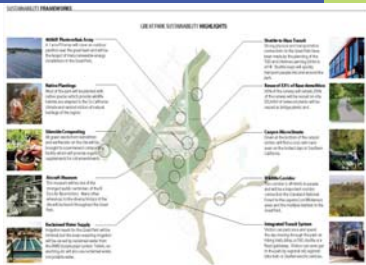
PRE-REQUISITE Standards & Guidelines
2008 Draft Report

DEVELOP A PROGRAM PLAN WITH PERFORMANCE GOALS

Program Plan must include the Integrated Design Team, Client and Property Owner

Why a Program Plan?

- Supports the vision of the project
- Identifies the users and stakeholders
- Sets the direction of the design team



PRE-REQUISITE Standards & Guidelines
2008 Draft Report

CONTROL AND MANAGE INVASIVE SPECIES Management Plan for control and removal of any invasives

Management plan includes:

- A procedure for identifying and monitoring new invasive species
- Initial Treatment, including methods of on-site disposal
- Follow-up Treatments, and
- Long-term Control including Monitoring.



PRE-REQUISITE Standards & Guidelines
2008 Draft Report

DEVELOP LANDSCAPE MAINTENANCE PLAN *Why do a Maintenance Plan?*

- Ensure long-term sustainability
- Educate staff and contractors
- Monitor (and adjust) practices

What Information Is Needed?

- Invasive Species
- Pest Management
- Wildlife Species
- Irrigation Schedule
- Recyclables and waste
- Soil Amendments



PRE-REQUISITE Standards & Guidelines
2008 Draft Report

CREATE A SOILS MANAGEMENT PLAN Optimize soil function, and communicate plan to landscape contractors

Requirements:

- Calculate surface area of healthy and disturbed soils
- Create soils map and grading plan
- Describe treatment details for all soils
- Communicate soils plan to landscape contractors




CREDIT OPTION Standards & Guidelines
2008 Draft Report

RESTORE PREVIOUSLY DISTURBED SOILS Restore soil function to rebuild soils ability to support healthy plants and water infiltration

Requirements:

Restore soils to the requirements described in prerequisite "Restore soils disturbed during construction"




CREDIT OPTION Standards & Guidelines
2008 Draft Report

CARBON NEUTRAL SITE BALANCE CARBON EMISSIONS throughout the LIFE OF THE SITE

Technologies and Strategies:

- REDUCE EMISSIONS during material and plant transport, and landscape maintenance
- Select transport methods with increased FUEL EFFICIENCY
- USE VEGETATION and SOILS to provide on-site carbon sinks




CREDIT OPTION Standards & Guidelines
2008 Draft Report

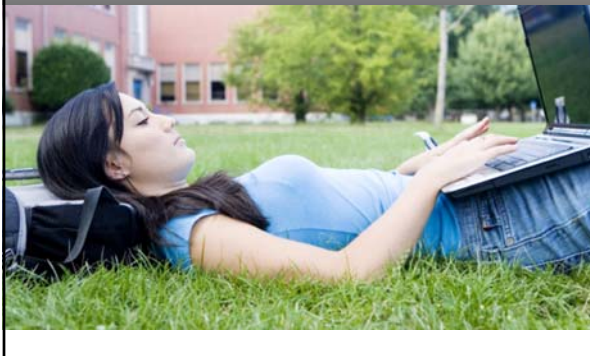
SUPPORT SUSTAINABLE PRACTICES IN PLANT PRODUCTION Support providers that reduce resource consumption, waste, and risks of invasives species

Purchase from nurseries that:

- Reduce Greenhouse gas emissions
- Employ Integrated Pest Mgmt.
- Prevent use and distribution of invasive species
- Reduce potable water consumption
- Use of sustainable soil amendments



Public Comment Period - November 10th - January 20th



THE SUSTAINABLE SITES INITIATIVE

HOME ABOUT US WHY SUSTAINABILITY CASE STUDIES CURRENT WORK CONTACT

Sustainable Sites Initiative is an interdisciplinary effort to create voluntary national standards for sustainable land design, construction and maintenance practices, with the intention of supplementing existing green building and landscape guidelines as well as becoming a stand-alone tool for site sustainability.

"The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired in value."
-Theodore Roosevelt

SUSTAINABLE SITES CASE STUDY LIBRARY
Often the best way to communicate an idea is to see it in practice. With this in mind, Sustainable Sites has created a case study library of projects that illustrate sustainable landscape practices ranging from West Coast residential gardens to suburban overhauled parks. The case studies represent individual sustainable practices at various stages of project development - from design to maintenance.
[Learn more](#)
[See more case studies](#)

Did you know?
Maintenance over a 20-year span for a non-native turf grass landscape can cost almost seven times more than the cumulative costs of maintenance for a native prairie or wetland.
[more >>>](#)

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
Wildflowercenter
UNITED STATES BOTANIC GARDEN

THE SUSTAINABLE SITES INITIATIVE

For More Info, Visit:
www.sustainablesites.org

Or Email
info@sustainablesites.org

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
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