

Sustainable Land Care using LEED Principles

Lindsay Schramm

Co-Owner Sustainable Growth Boise

University of Idaho Master Gardener

www.sgidaho.com

389-GROW (4769)

LEED Principles

- Site sustainability – choosing appropriate sites to develop and encouraging alternative transportation.
- Water efficiency – reducing water use through better fixtures, reducing potable water use both in buildings and landscaping.
- Energy and Atmosphere – optimizing energy performance of buildings and incorporating on-site renewable energy.
- Materials and Resources – diverting construction waste from landfills, reusing materials and structure of existing buildings, using regional, recycled, and rapidly renewable materials.
- Indoor Environmental Quality – utilizing appropriate ventilation, use of low emitting materials, control of lighting and thermal comfort, and maximizing daylight and views into spaces.
- Innovation in Design – encouraging innovation to come up with new strategies for sustainability.

Principle:

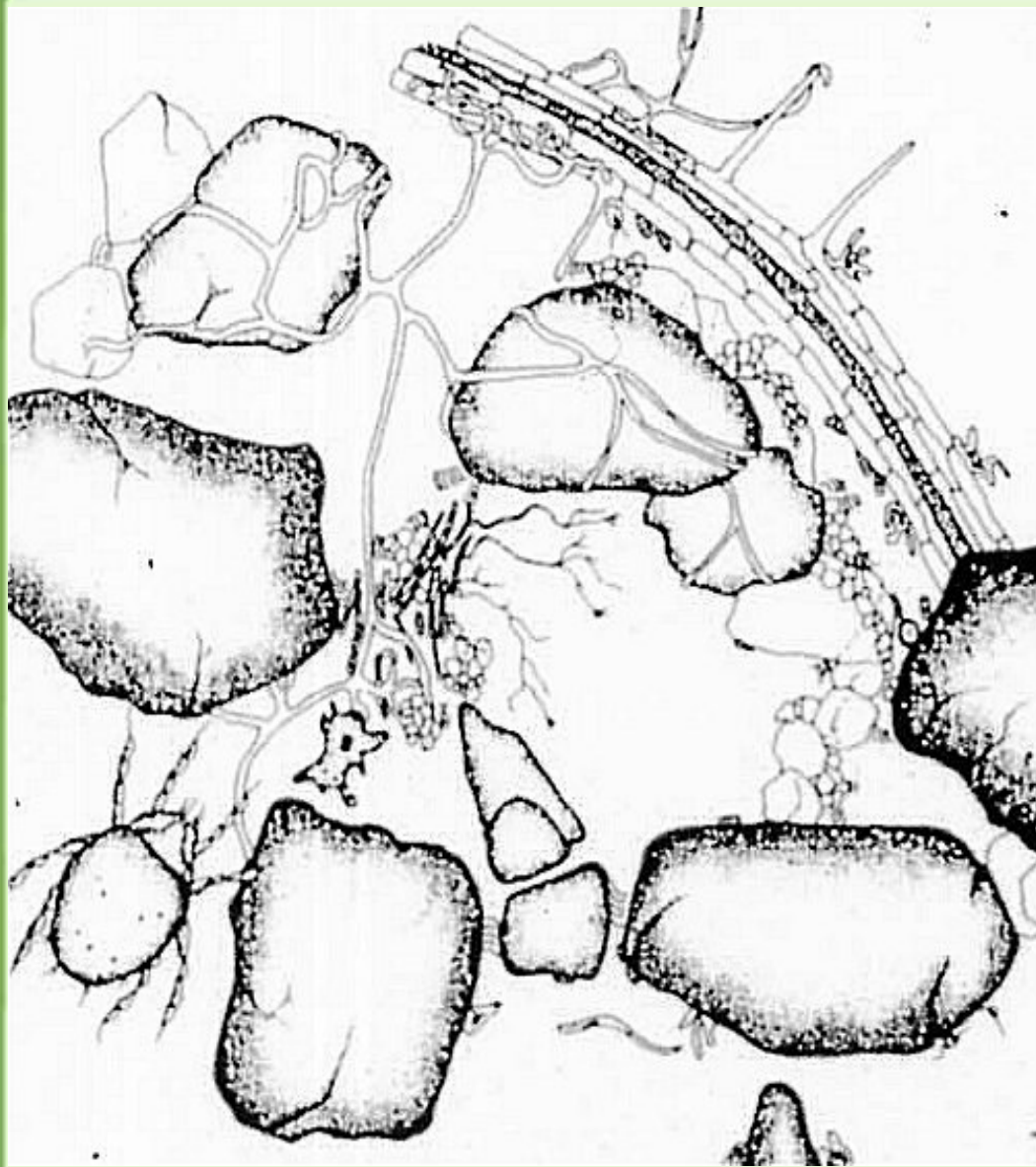
Site sustainability – choosing appropriate sites to develop and encouraging alternative transportation.

- For any site chosen, but especially those in watersheds or riparian areas, the pollution generated from the landscape can be quite extensive.
- Preventing water loss and nutrient leaching minimizes the impact of a landscape on its surroundings.
- A biologically based organically maintained landscape:
 - Creates soil structure, retaining water and nutrients
 - Minimizes or eliminates the use of pesticides and herbicides.
 - Uses complex, organic nutrients, that feed the soil life and do not leach.

Principle:

Water efficiency – reducing water use through better fixtures, *reducing potable water use both in buildings and landscaping.*

- The EPA estimates up to 50% savings in water use when compost is used in the landscape.
- Why?
 - Good compost contains countless beneficial microorganisms.
 - Those organisms make “homes” in the soil, creating pore spaces.
 - Microorganisms are the ground floor of the Soil Food Web . . . They attract the higher level life forms such as:
 - Worms, microarthropods, vertebrates.



- Inoculation of beneficial soil life to begin to detoxify the soil, and create structure.
- Also very valuable after there has been a site disturbance after construction.

A lawn CAN

- Cool a building up to
- Retain rain water water in a landscape
- Filter toxins from air and rainwater
- A 50ft by 50ft lawn can generate enough oxygen for a family of four
- Reduces dust
- Be up to 30 degrees cooler than bare soil

Principle:

Materials and Resources – diverting construction waste from landfills, reusing materials and structure of existing buildings, *using regional, recycled, and rapidly renewable materials.*

Conventional Products

- Pesticides are derived from Petroleum
- Nitrogen Fertilizers are derived from Natural Gas
 - One ton of Anhydrous Ammonia takes 33,000 cu/ft of Natural Gas to manufacture.
- Herbicides either derived from coal, or by-products of chemical industry.

Principle:

Indoor Environmental Quality – utilizing appropriate ventilation, use of *low emitting materials*, control of lighting and thermal comfort, and maximizing daylight and views into spaces.

- Standards set for Pesticide/Herbicide degradation by EPA over length of time assume exposure to moisture, UV rays, and soil contact . . .
 - What happens when you walk across the landscape and into a building?

Principle:

Innovation in Design – *encouraging innovation to come up with new strategies for sustainability.*

- Conventional practices focus on allopathic treatments to take care of the symptoms
 - Similar to many modern medical practices
 - Suppress the symptom, ignore the problem
 - Results in a chemical (drug) dependent eco-system, unable to fight its own battles

VS.

- Figuring out what the underlying issue actually causing the problem, while bolstering up eco-system to be strong