
Seminars

The Natural Mediterranean Garden

Week-end residential seminar offering new insights to the Mediterranean Garden

Dryland Permaculture Design

Residential seminar for designers and land owners

Holistic Management

Residential seminar in sustainable decision-making and management

Sustainable Stewardship

Residential seminar in a whole approach to creating a sustainable life, landscape or livelihood

Free on-line Newsletter

Membership on-line Library

For more information see our website on

www.holisticdecisions.com

Nutshell Series

1. The Savory Brittleness Scale
2. Carbon Sequestration
3. Ecosystem Processes
4. Grazing Animals
5. Run-off
6. Water Cycle
7. Root Cause
8. Plant Succession
9. Irrigation
10. What is Holistic Management®?

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Semilla Besada
Nutshell Series

*Ecosystem
Processes
and their implication for
dryland design and
management*



Ecosystem Processes and their implication for dryland design and management

The ecosystem processes are to our earth what the heart, lungs and other organs are to our bodies. If any of the processes are compromised, the health of the whole planet is compromised.

There are four ecosystem processes:

- The water cycle.
- The mineral cycle
- Solar energy flow
- Community dynamics

The water cycle is the ability of the planet to drop rain on the soil, which is taken up by plants and then returned to the air through transpiration. This falls again as rain.

The mineral cycle is the ability of the soil organisms to break down dead vegetation and other material to enrich the soil and make nutrients available to plants. These plants then grow and die and the cycle begins again.

Solar energy flow is the capacity of plants to capture energy from the sun, which enables them to grow and generate food for the next component of the food chain. They are

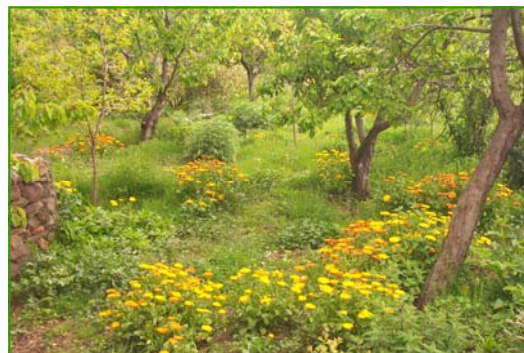
eaten in turn and so on up the food chain, until all that energy has been used.

Community dynamics is the process of establishing stable and complex biological communities. A brittle landscape may have many perennial grass species, specimen trees, grazing animals, grasshoppers, crickets, cicadas, lizards, beetles, ants, insect-eating birds, raptors and so on. They evolve together to create a mutually supportive community.

Brittle landscapes are particularly vulnerable to the use of inappropriate practices from temperate environments. The most effective way in which to design and manage a brittle landscape is by using ecosystem health as a guide.

The healthy function of the ecosystem processes would typically create an environment in which:

- There is a stable, complex and diverse community of plants, animals, birds, insects and so on.
- There is consistent year-round living plant coverage of the soil.
- There is a breakdown of dead vegetation and other biological materials which are returned to the soil as fertility.



- There is stable, humus-rich soil.

Rather than being attached to creating a reed-bed, or using raised beds, or mulching all trees, which are all ‘it depends’ practices, we simply ask ourselves whether the ecosystem processes are healthy.

For the first time in Europe, residential educational programmes at Semilla Besada consider new insights for sustainable design and management of dryland environments.

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