

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

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Residential seminar in sustainable
decision-making and management

Sustainable Stewardship

Residential seminar in a whole ap-
proach to creating a sustainable life,
landscape or livelihood

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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

Run-off
and its implications for
dryland environments



Run-off and its implication for dryland environments

Recognising run-off on land provides a potent indicator of the health of the water cycle on any piece of land. The term is used to indicate that when rain falls onto the soil, rather than soaking into the ground where it lands, it runs-off the surface.

The implication of this is that moisture is not made available to plants in the area, which can in turn lead to their death. The impact of this is more serious the greater the slope or gradient of the land.

On steep land, it is of pivotal importance that the rainfall remains where it falls for the following reasons:

- Water is made available to plants in the area, which in turn releases nutrients for those plants to help them grow.
- The soil is not washed from the higher elevation to the lower, taking with it the fertility which nourishes plants.
- Plants can remove carbon from the atmosphere and store it in the soil.

Anything that prevents rainfall from percolating into the soil where it lands, contributes to environmental degradation. Examples of circumstances that encourage run-off are as follows:

- Concreting roads and driveways
- Bare soil and the practices that encourage its development.

The picture below shows how 400ml of water poured onto a 15 degree slope of bare ground over the period of a minute, generated 3.81m of run-off. In the foreground we can just see more exposed stones, as the soil surface was washed away, carrying fertility that could have nurtured plants.

However, if instead of bare soil there had been plants the water would have been captured by the stems, stalks and leaves of the plants, allowing it to percolate into the soil to provide nutrients for further plant growth.



Dryland environments are brittle landscapes as categorised by the Savory Brittleness Scale, which makes them particularly susceptible to run-off. The soil type is low in humus and conventional land management favours bare soil. These are just the sort of circumstances that make such areas particularly prone to desertification.

Where there are steep gradients, rainfall that is not captured in the soil runs-off taking with it fertility, causing soil erosion and the death of plant communities. If this process is not prevented the final outcome is the creation of a desert.

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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Nutsbell Series*

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