

LANDMARK

LAND MANAGEMENT: ASSESSMENT, RESEARCH, KNOWLEDGE BASE

Water regulation and purification



The capacity of a soil to remove harmful compounds and the capacity of a soil to receive, store and conduct water for subsequent use and the prevention of both prolonged droughts and flooding and erosion.

Water budget in a soil system

INPUTS	=	OUTPUTS	±	STORAGE
precipitation		evapotranspiration		
Irrigation		drainage		
		runoff		



Input of excess nutrients and pollutants

Water purification processes:

- Storage and retention
- Filtration and Buffering
- Transformation

-> Water quantity provision
-> Water quality regulation

The rate of these processes changes depending on soil properties (physical, chemical and biological characteristic). The variation in soil types and climate supply different rates in water quantity and quality.

Soil horizon
Soil profile depth

Ecosystem Service

Water purification and water quality regulation

damage

Environmental risk

Water pollution

reversible

Engineered human services implementation



conservation



Benefits of a soil water system for the environment:

- Protection against groundwater contamination
- Protection of food chain contamination
- Flooding control

