FACT SHEET

A landowner's guide to managing

WETLANDS

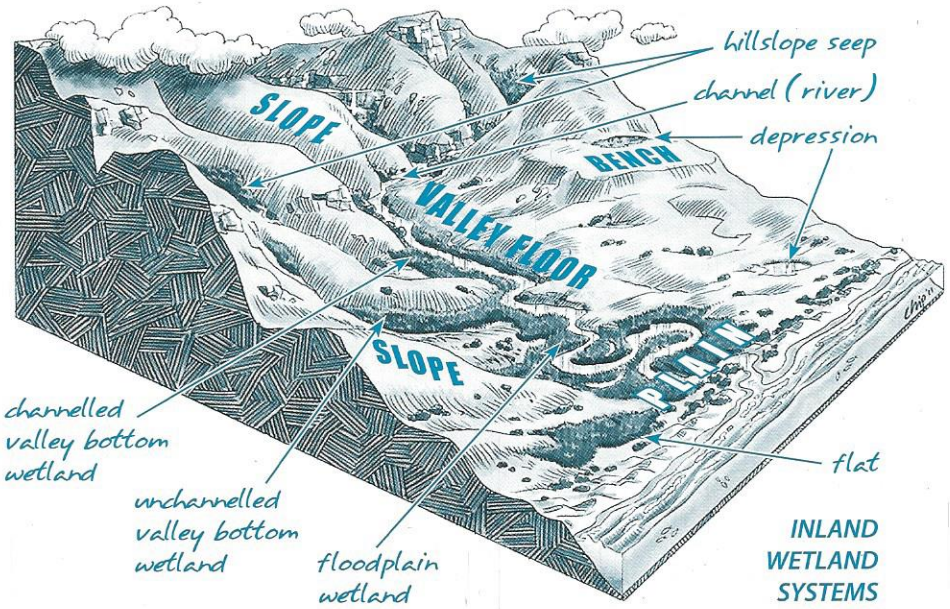
CapeNature

What is a wetland?

As defined in the National Water Act (Act 36 of 1998) wetlands are land which is transitional between terrestrial and aquatic systems where the water table is at or near the surface, or the land is periodically covered with shallow water or would support vegetation typically adapted to life in saturated soils. This includes springs, swamps, pans, lakes, estuaries and floodplains.

A wetland is any part of the landscape where water collects for long and often enough to influence the soil, plants and animals that occur there.

The National Biodiversity Assessment of 2012 found that wetlands are the most critically endangered ecosystem in South Africa. Over 50% of wetlands in South Africa have either been severely degraded or completely lost.



The value of wetlands

Wetlands were referred to as wastelands in the past, but far from being wastelands, wetlands are amongst the most productive ecosystems in the world. Wetlands play an important part in river catchments both directly and indirectly by contributing to flood attenuation, drought relief, water storage and soil protection, amongst others. These hardworking systems are complex and dynamic, and provide a range of benefits. The importance of wetlands and water is increased by the alternating wet and dry phases of our country's semi-arid climate. The cost of electricity is becoming increasingly expensive and water, which is relatively cheap in comparison, will surely follow. Rationing of this valuable resource will become the norm. Typically, wetlands are not isolated. A catchment with extensive loss of wetlands could be subject to sedimentation in river mouths, fields and dams, extreme flood damage, or degradation of the remaining wetlands, for example, hyacinth infestations due to polluted inflows.

Benefits of wetlands

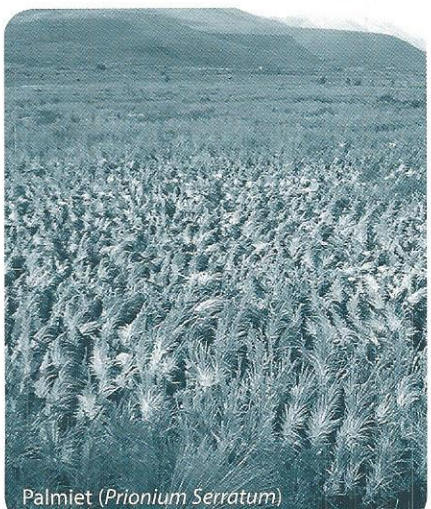
'Eco' is the abbreviation for ecological. Ecological Infrastructure is a descriptive name for a set of healthy functioning ecosystems (for example, in a catchment) which deliver valuable services (also known as Ecosystem Services).

Wetland eco-services include the supply of fresh water, flood attenuation, buffers, erosion control, sustained stream flow, food security, fish nurseries, groundwater recharge, as well as spiritual, tourism and recreational benefits.

Wetlands can be natural filters of water through trapping pollutants, such as excess nutrients, disease-causing bacteria, pesticides and sediment. Wetlands have this ability due to special characteristics of the wetland plants and soils. Organic matter in wetland soils can trap certain pollutants, while man-made pollutants may be broken down by wetland micro-organisms. Rapidly growing plants, such as *Typha capensis* (Papkuil), have the ability to absorb nutrients.

Another eco-service provided by wetlands in the catchments of the Western Cape is flood attenuation. Most wetland plants are good at controlling erosion by reducing stream energy and stabilizing soil, allowing for better recovery of these systems after a damaging flood event.

One example would be palmiet (*Prionium Serratum*), which is a specially adapted plant commonly found in the Southern and Western Cape river systems. It is characterized by fibrous, net-like root systems and woody stems which are very effective at trapping sediment and reducing the velocity of waters in flood. This unique plant is also referred to as the superglue of the Western Cape rivers. However, palmiet is not only associated with rivers, but can also form extensive Valley Bottom wetland systems, which are often underlined by peat.


Palmiet (*Prionium Serratum*)

PEAT is soil that is rich in organic matter. Peatlands are very rare in South Africa and cover only 1% of the total wetland area. Peat forms at a very slow rate. For example a peat basin of seven meters deep could take at least 6 000 years to form. It is also thought that 1m^3 of peat has the ability to store up to 800 litres of water. Due to peat's high carbon (organic) content it acts as a natural purifier of water.

Peat plays an important yet complex role in mitigating climate change; in addition to plants removing carbon dioxide from the atmosphere through photosynthesis, peat wetlands store large amounts of organic matter. Once degraded, the functioning of these wetlands can be destroyed and methane released.