

The five secrets of wetlands - wetland uses and values

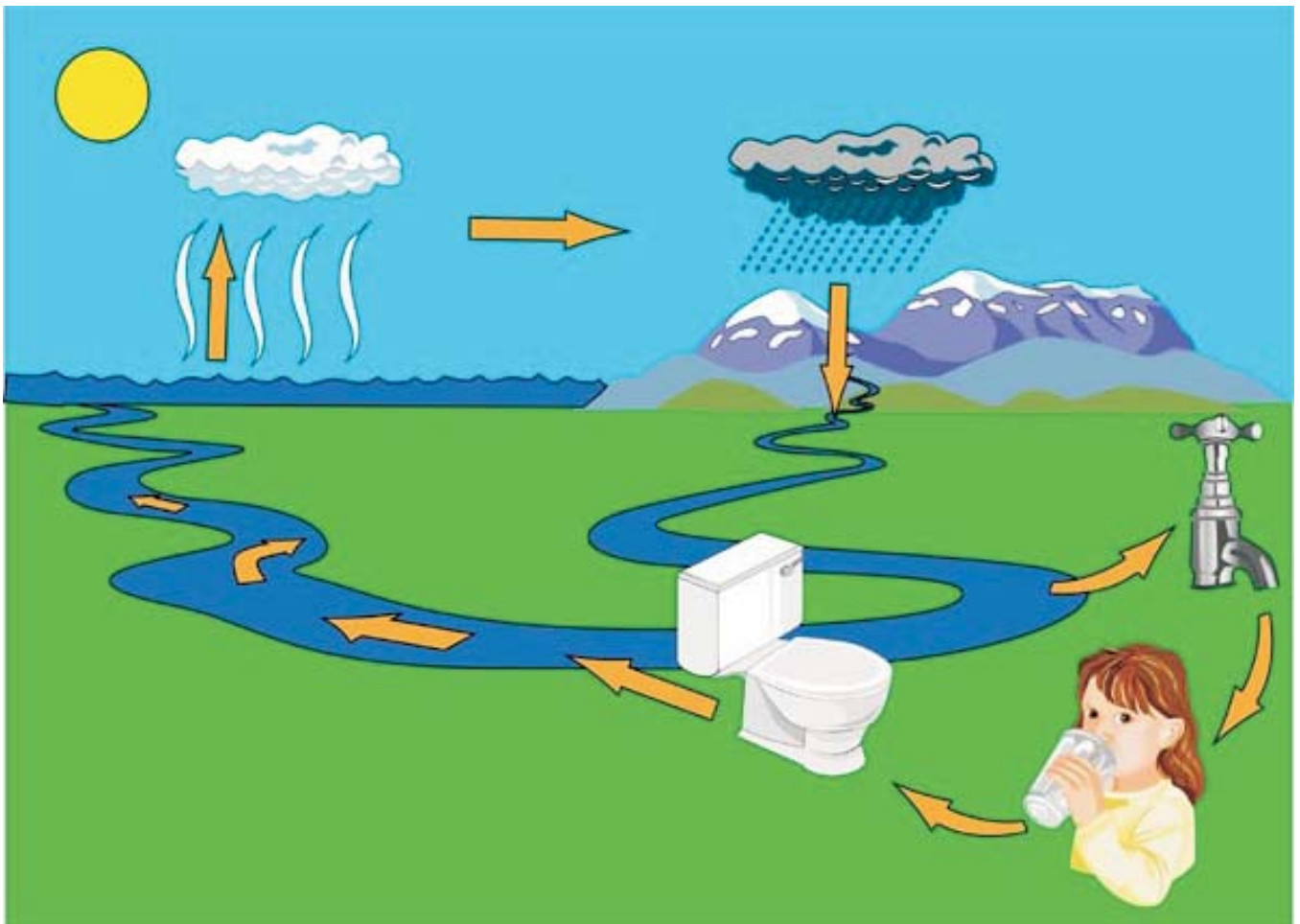


Summary

This fact file describes the five secrets of wetlands in terms of their uses and values.

The five secrets of wetlands

- 1. Wetlands store water** - They act like giant sponges, absorbing water from all around.
 - It's just as well they do. Water is the basic requirement for life and life systems to function.
 - The Earth's surface consists mostly of water in constant circulation through a cycle of precipitation, evaporation, transpiration, and percolation - the water cycle.



- Fresh water is finite. Less than 1% of the world's water is available to people and wildlife. The rest is either saltwater or locked, frozen, in icecaps. Most of the available water occurs in wetlands.
- Many wetlands help recharge underground aquifers that store 97% of the world's unfrozen freshwater. Groundwater is critical to billions of people as their only source of drinking water (almost one third of the human population). It is also the

only source of water for many irrigation programmes (17% of the world's cropland is irrigated).

2. Wetlands are cleaners - They slow water movement, allowing silt and sediment to settle. Wetland plants filter pollutants and remove high levels of phosphorus and nitrogen.

- Reed beds, for example, make wonderful natural filter systems to remove pollutants and organic waste from water. Reed stems block the passage of larger particles, and microbes in the root systems literally 'eat' certain noxious pollutants, breaking them down into harmless chemicals in the process.
- The retention of nutrients in wetlands makes them among the most productive habitats on Earth, rivaling even intensive agricultural systems.



3. Wetlands are calmers - By storing water and slowing water movement, wetlands buffer surrounding areas from the worst effects of storms and floods. Wetland plants stabilize shorelines and wetland edges. Mangroves, for example, control the effects of floods; protect shorelines from erosion; trap sediments, toxins and nutrients, and act as wind breaks to buffer against storms.



- The value of intact mangrove swamps in Malaysia for storm protection and flood control alone has been estimated as US\$ 300,000 per kilometer - the cost of replacing them with rock walls.
- The value of one kilometer of coral reef ranged from US\$ 137,000 to US\$ 1.2 million over a 25 year period, based on the economic value of storm protection, fishing and tourism.

4. Wetlands are producers - They are nature's larder and provider. Wetlands have supplied people with products for thousands of years. Throughout the world, people have found food, medicines, building materials, industrial oils and dyes, textiles and paper products in wetlands.



- Over half the human population depends on a wetland product - rice - for its staple diet. Wetlands also support the world's great fisheries and shellfish nurseries.
- We all use wetland products every day. Here are some of them.
- Prawn curry - tropical prawns form the basis of major fisheries in Asia. They depend on mangroves as nurseries. Other economically important shellfish worldwide include shrimps, crabs, clams, mussels and oysters.
- Rice - the origin of Asian rice is uncertain. African rice probably originated in the swamps of the Upper Niger River. As well as being the staple food of over half of humanity, rice makes up 11% of all arable crops.
- Sago - Swamp sago palms are important plants of s.e. Asian floodplain swamps. The pith produces starch from which flour is made.
- Palm oil - Oil Palms, one of the world's most important sources of edible and soap oil, originate from west African wetlands.
- Cranberries - a highly valuable North American wetland crop.
- Smoked salmon - coastal mangrove, lake and floodplain wetlands are highly productive spawning, nursery and feeding areas that support many of the world's major fisheries. Atlantic and Pacific Salmon migrate thousands of kilometers to spawn in shallow river headways. Fish farming has a long tradition in Asia and Europe.
- Peat fuel - peat has been used as fuel for centuries, both from temperate peat bogs and tropical peat swamp forests. Widespread peat extraction is a major threat to northern peat bogs and tropical peat swamp forest.
- Reeds - reeds are used in thatching, as are various palm fronds in Jamaica, Philippines and the Indo-Pacific.
- Charcoal - charcoal production from mangroves provides an important income source for many people in central America and the Caribbean.

- Aspirin - aspirin is derived from salicylic acid, found in willow bark. Willow wood is widely used to make everything from wicker furniture and baskets to living screens, sculptures and cricket bats.
 - Wetlands also have great value as places for recreation and leisure including opportunities for boating, bird watching and eco tourism.
- 5. Wetlands are homes** - often thought of as wastelands, wetlands are, in fact, among the world's most productive environments and support high concentrations of life (biodiversity).



- Freshwater wetlands hold more than 40% of the world's known species, including 12% of all animal species. From northern rivers where salmon spawn to crocodile-rich tropical swamps, wetlands provide food and shelter for species of most major animal groups from microbes, plants and invertebrates (animals without backbones) to fish, amphibians, reptiles, birds and mammals. They are, for example, great havens for birds from storks to swans and ducks to divers.

Further reading

Wetlands in Danger. P. Dugan (Mitchell Beazley/IUCN, 1993).

Wetlands. M. Finlayson and M. Moser (Facts on File, 1991).

Waterlogged Wealth. Why waste the world's wet places? E. Maltby (Earthscan, 1986).

Wetlands. P Moore (Facts on File, 2001).

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