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Islands of water

Wetlands are as variable as any terrestrial ecosystems, differing not only in water quality but also in their soils, availability of oxygen, frequency of drought and flood, surrounding vegetation, and an ever-changing mosaic of interactions between all of these things and the plants and animals themselves. These factors determine whether there will be plants, the types of plant communities that will form, and in turn the presence or absence of plants also influences the types of animal habitat available.

Before looking at the many types of wetland, it is useful to understand the nature of the water which passes through them, as this has a direct impact on the health of many animals that even the best-laid plans for habitat will never be able to change.

Hardness and salinity

As water flows from higher ground to the sea or to saline lakes, whether over the surface or under the ground, it picks up anything soluble including organic acids, minerals and salts. Even when it first falls as rain it has already picked up a little carbon dioxide from the air to form traces of carbonic acid. The study of the movement of water and associated changes in its quality is called hydrology, and although this need not be considered in any detail here it is useful to understand the relationship of salinity and hardness.

Salinity is the measure of the amount of sodium ions in the water, with common salt usually the main component. Hardness is mainly a measure of calcium- and magnesium-based salts, though hard or saline waters usually have a