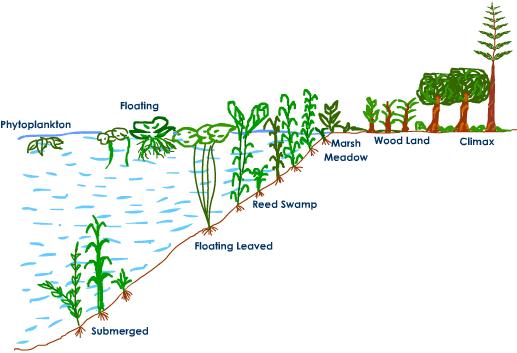
**Hydrosere Succession**

A **hydrosere** is the primary succession sequence which develops in (fresh water) aquatic environments such as lakes and ponds. It results in conversion of water body and its community into a land community, as in time, an area of open freshwater will naturally dry out, ultimately becoming [woodland](http://en.wikipedia.org/wiki/Woodland). During this change, a range of different habitats such as swamp and marsh will succeed each other.

**5. Sedge-Meadow Stage**

Successive decreases in water level and changes in substratum help members of [Cyperaceae](http://en.wikipedia.org/wiki/Cyperaceae" \o "Cyperaceae) and [Graminae](http://en.wikipedia.org/wiki/Graminae" \o "Graminae) such as [Carex](http://en.wikipedia.org/wiki/Carex" \o "Carex) spp. and [Juncus](http://en.wikipedia.org/wiki/Juncus" \o "Juncus) to establish them. They form a mat of vegetation extending towards the centre of the pond. Their rhizomes knit the soil further. The above water leaves [transpire](http://en.wikipedia.org/wiki/Transpiration) water to lower the water level further and add additional leaf litter to the soil. Eventually the sedge peat accumulates above the water level and soil is no longer totally waterlogged. Marshy vegetation disappears due to mesic conditions (balanced conditions).

**6. Climax Stage**

Finally a self-perpetuating climax community develops. It may be a [forest](http://en.wikipedia.org/wiki/Forest) if the climate is humid, [grassland](http://en.wikipedia.org/wiki/Grassland) in case of sub-humid environment, or a [desert](http://en.wikipedia.org/wiki/Desert) in arid and semi-arid conditions. A forest is characterized by presence of all types of vegetation including herbs, shrubs, mosses, shade-loving plants and trees. [Decomposers](http://en.wikipedia.org/wiki/Decomposers) are frequent in climax vegetation. The overall changes taking place during development of successional communities are building up of substratum, shallowing of water, addition of humus and minerals, soil building and aeration of soil. As the water body fills in with sediment, the area of open water decreases and the vegetation types moves inwards as the water becomes shallower. Many of the above mentioned communities can be seen growing together in a water body. The centre is occupied by floating and submerged plants with reeds nearer the shores, followed by sedges and rushes growing at the edges.

**6. Woodland Stage**

First the peripheral part of the area is invaded by some shrubby plants, which can tolerate bright sunlight and water logged conditions. Plants that grow are Cornus and Cephlanthus. The next to invade trees are Populus, and Almus. Further fall in the water table, along with mineralisation and soil buildup favours the arrival of plants for next seral community.

**4. Amphibious Stage**

The pond is now invaded by emergent plants such as [Phragmites](http://en.wikipedia.org/wiki/Phragmites" \o "Phragmites) (reed-grasses), [Typha](http://en.wikipedia.org/wiki/Typha" \o "Typha) (cattail), and [Zizania](http://en.wikipedia.org/wiki/Wild_rice" \o "Wild rice) (wild rice) to form a reed-swamp. These plants have creeping rhizomes which knit the mud together to produce large quantities of [leaf litter](http://en.wikipedia.org/wiki/Leaf_litter). This litter is resistant to decay and reed peat builds up, accelerating the autogenic change. The surface of the pond is converted into water-saturated marshland.

**3. Rooted Floating Stage**

The floating plants are rooted in the mud, but some or all their leaves float on the surface of the water. These include species like [Nymphaea](http://en.wikipedia.org/wiki/Nymphaea" \o "Nymphaea), [Nelumbo](http://en.wikipedia.org/wiki/Nelumbo) and [Potamogeton](http://en.wikipedia.org/wiki/Potamogeton" \o "Potamogeton). Some free-floating species also become associated with root plants. The large and broad leaves of floating plants shade the water surface and conditions become unsuitable for growth of submerged species which start disappearing. The plants decay to form organic mud which makes the pond shallower.

**2. Submerged Stage**

Over time, sediment will be transported into the pond or lake through streams and rainwater draining from the land. This effectively deposits large amounts of sediment meaning the water depth will gradually decrease, allowing plants such as Starwort and Pondweed as well as hydrophytes such as Hydrilla, Vallisneria and Utricularia to grow. Waterlillies may also be established with floating leaves.

**1. Pioneer Stage**

Deep freshwater will not support rooted, submerged plants because there is not enough light for photosynthesis in the depths. There will be micro-organisms and plankton floating in the water such as minute autotrophic diatoms, phytoflagellates and cyanobacteria.