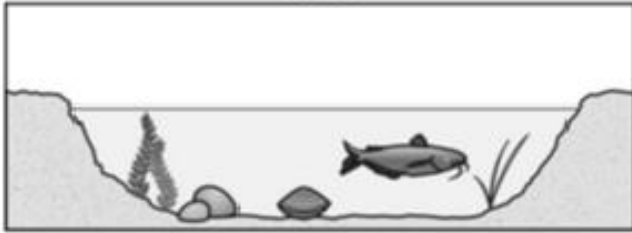
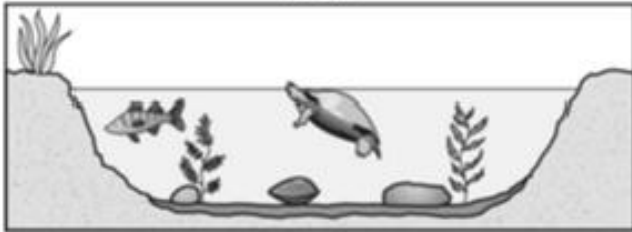


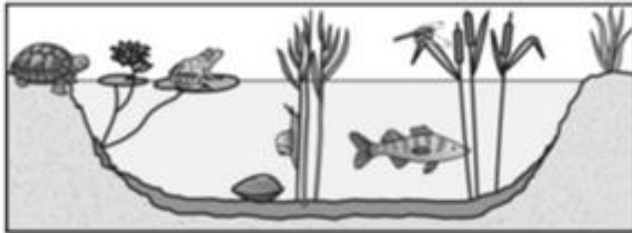
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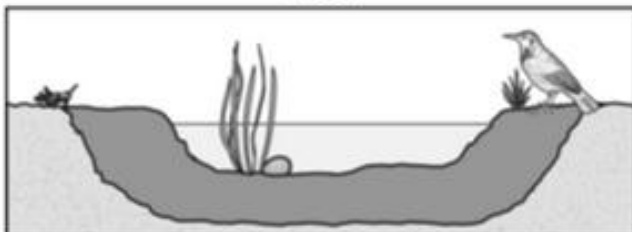
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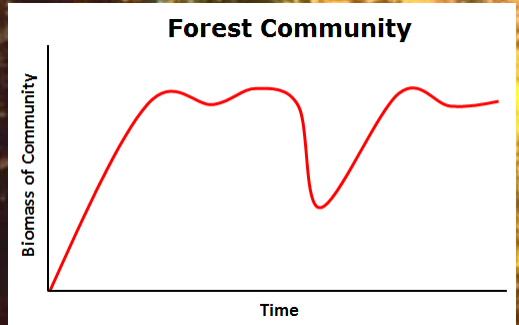
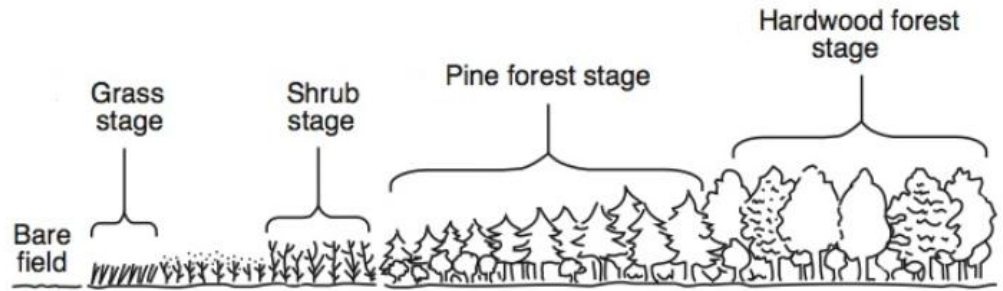
1966



2000



# Ecological Succession Continued



# Ecological Succession



Volcanic eruptions and receding glaciers create new barren rock surfaces where succession can occur.





Image by Andrew Tappert

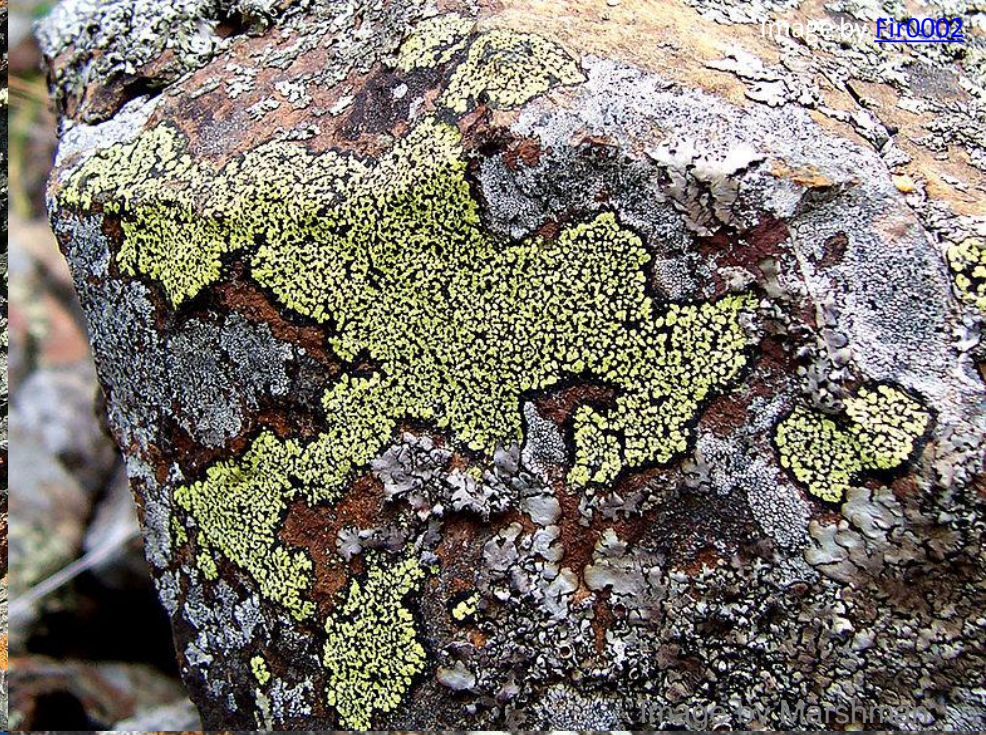


Image by Marshmelo

*Pioneer species,*  
like lichens and  
mosses, grow on  
the surface of  
these rocks.



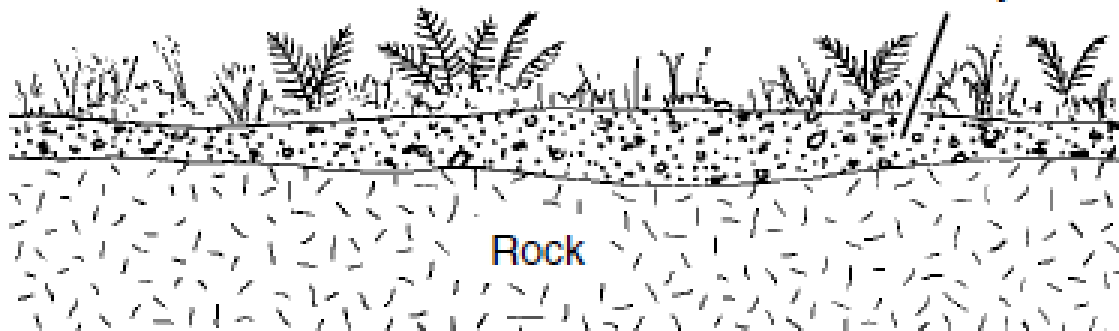


# Ecological Succession

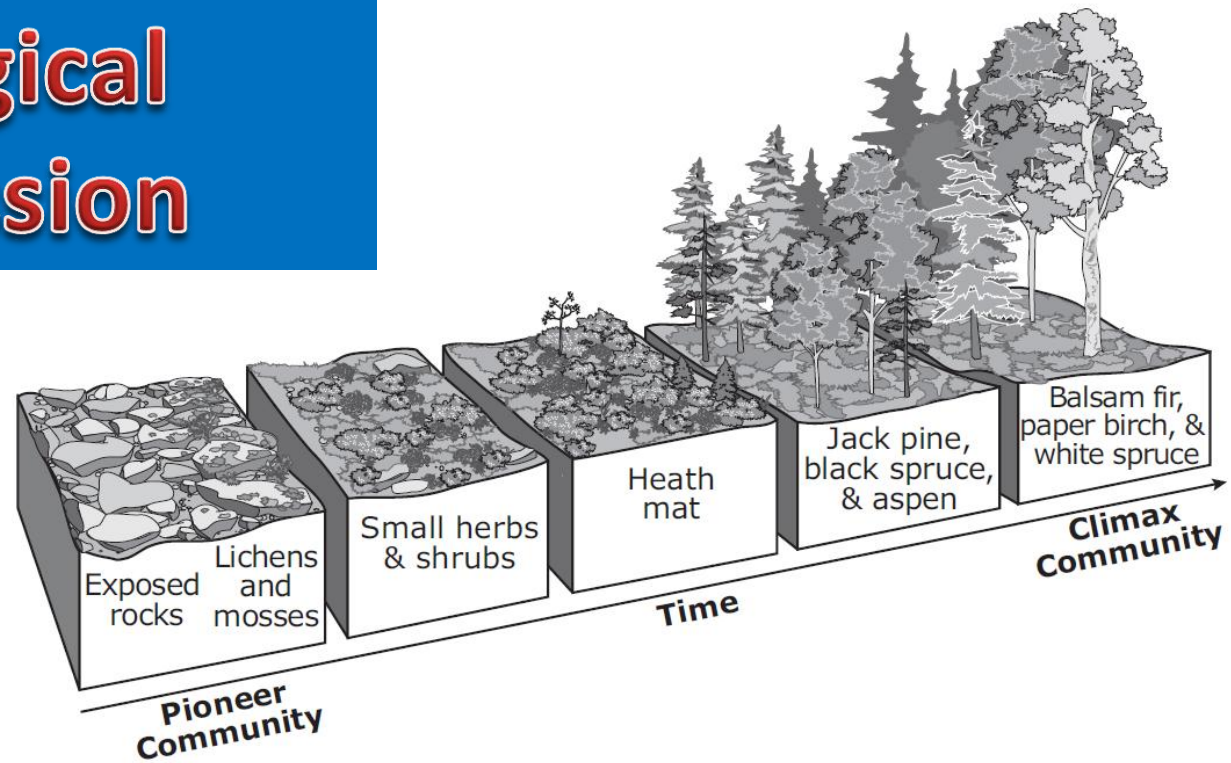
Erosion and the decomposition of organic matter continues to build up the *soil* in the ecosystem.

Grasses, ferns, and shrubs

Soil layer

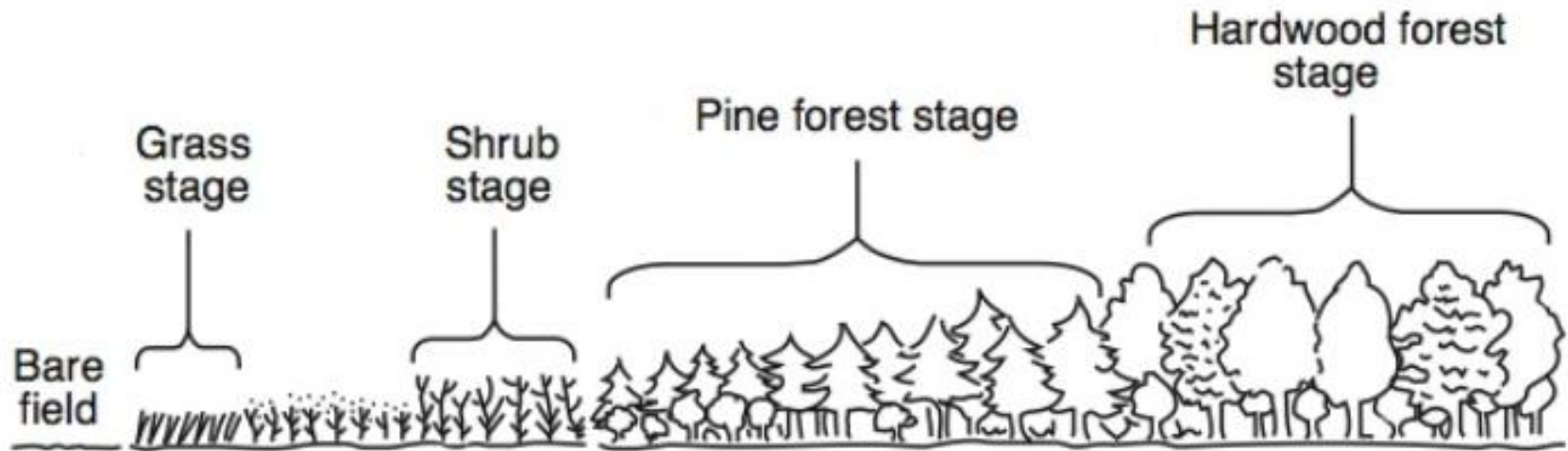


# Ecological Succession



Plant and animal communities continue to modify the environment in a way that allows new communities to *outcompete* and replace the old ones.

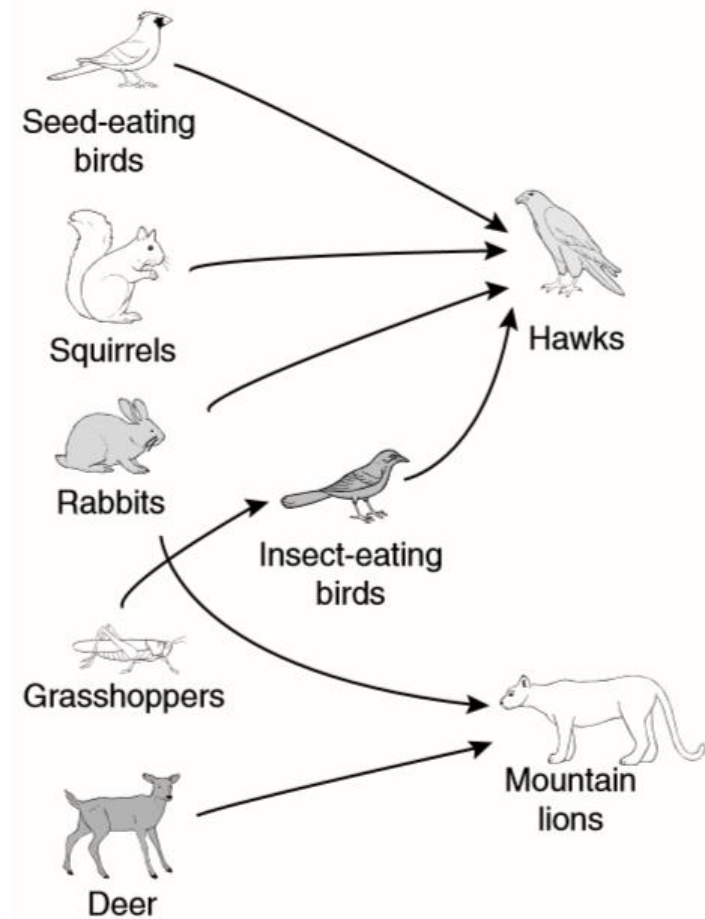
# Ecological Succession



This process, called ecological succession, continues until a stable ecosystem develops. This final stage is called the climax community.

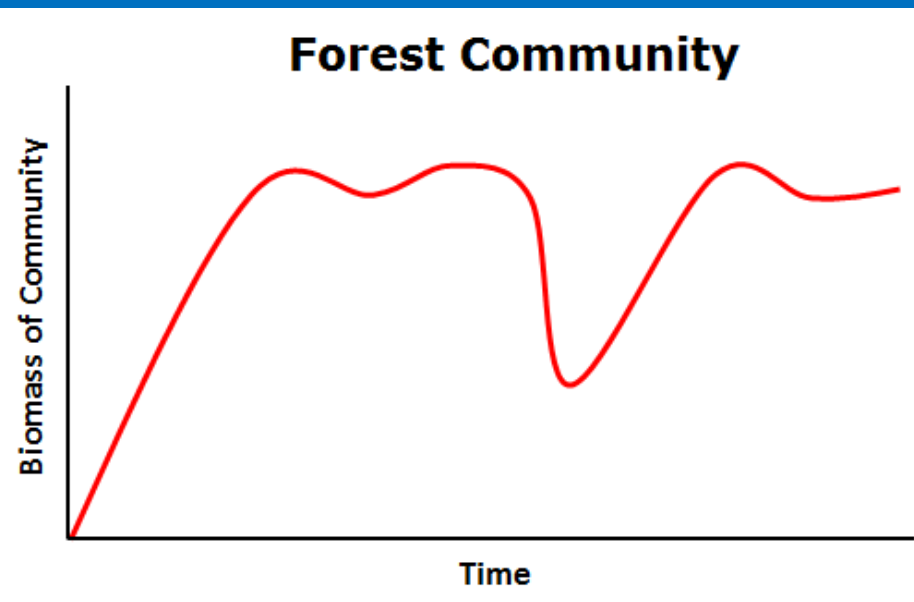
# Ecological Succession

It is important to understand that changes do NOT just happen in plant communities. As the type of plants change, so do the types of animals as new niches for herbivores and their predators (carnivores) are created.





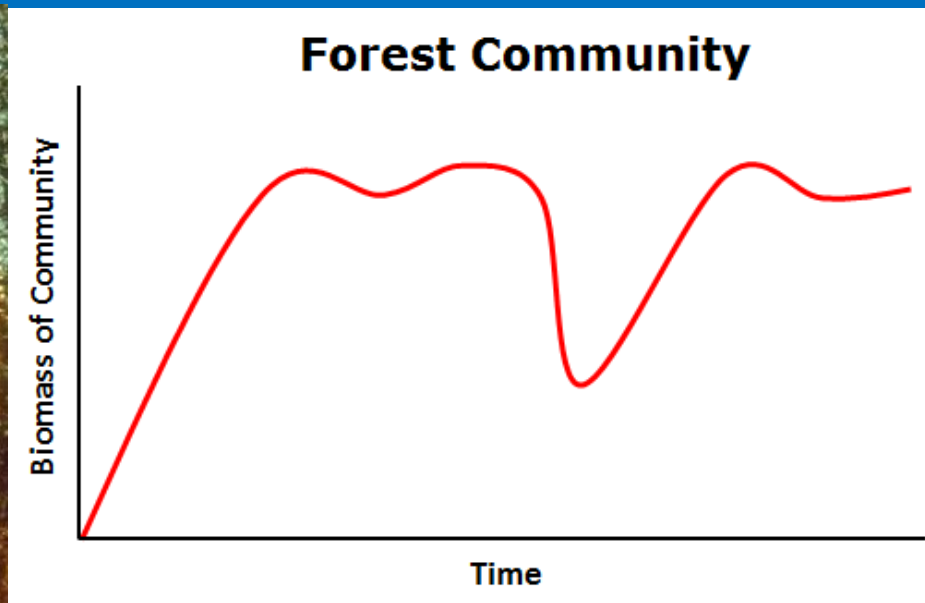
# Ecological Succession



If left alone by humans, climax communities will remain steady until there is a change in climate or a natural disaster occurs.



# Ecological Succession



Natural disasters that destroy climax communities include forest fires and volcanic eruptions. Even long, severe droughts can kill off these communities. These disasters cause a sharp decline in the biomass of the ecosystem.

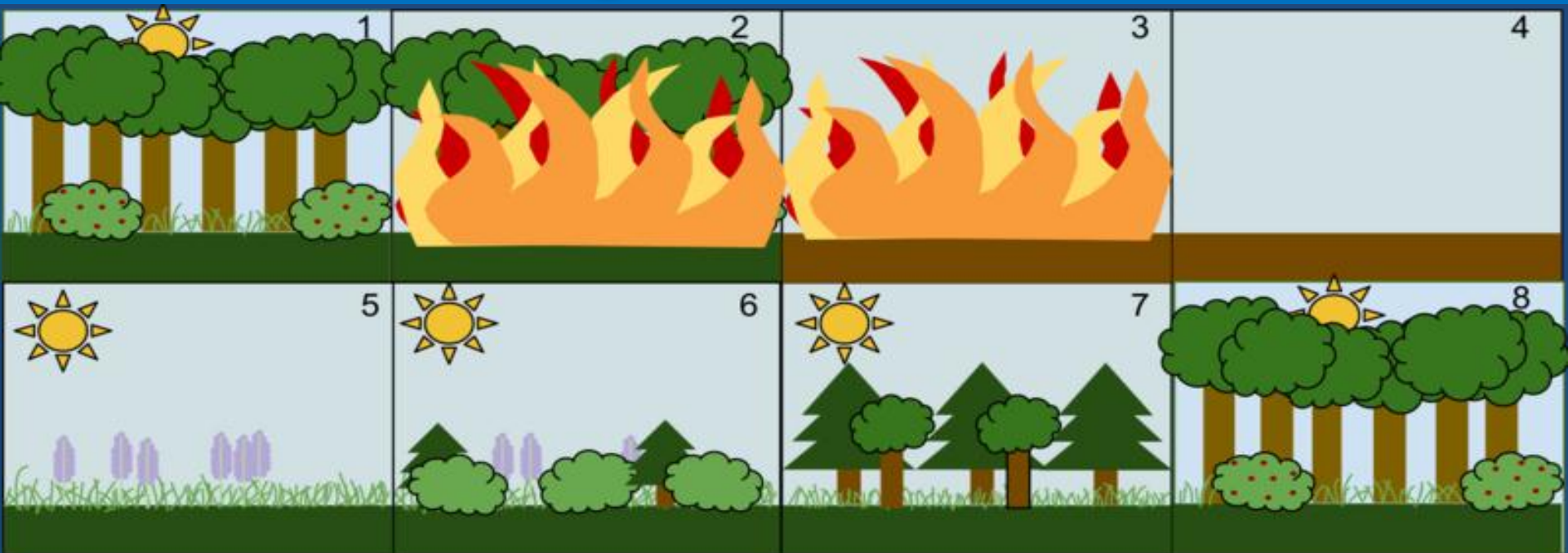
# Ecological Succession

Deforestation is one of the main ways that humans change forests ecosystems and destroy climax communities.



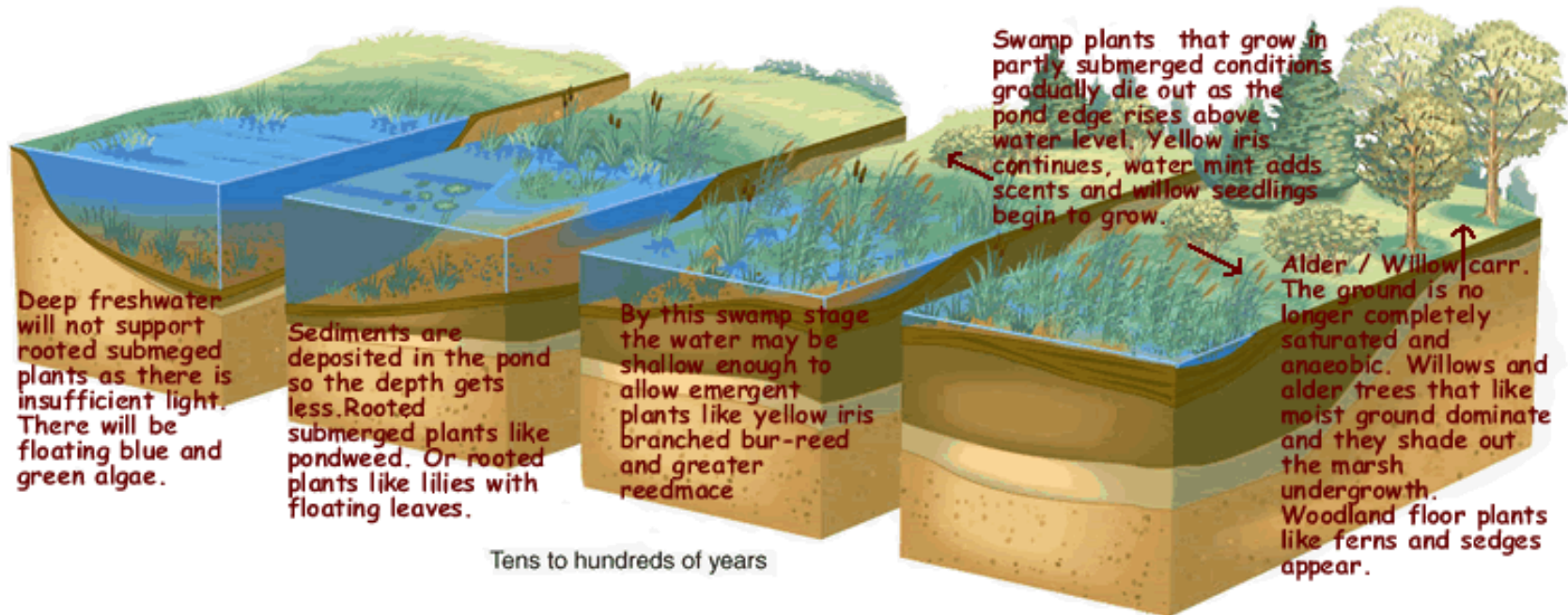


# Ecological Succession



If a natural disaster does occur, the ecosystem will go back through the stages of succession until it returns to a stable climax community.

# Ecological Succession

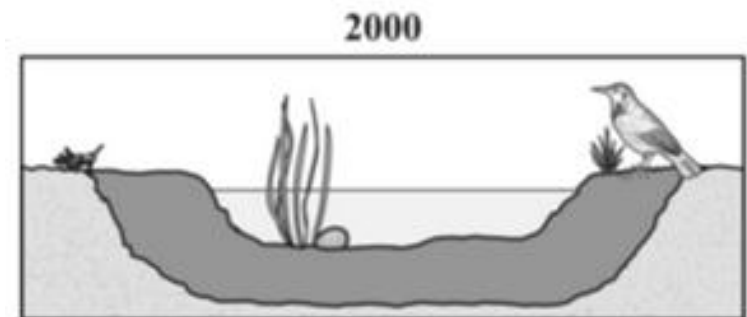
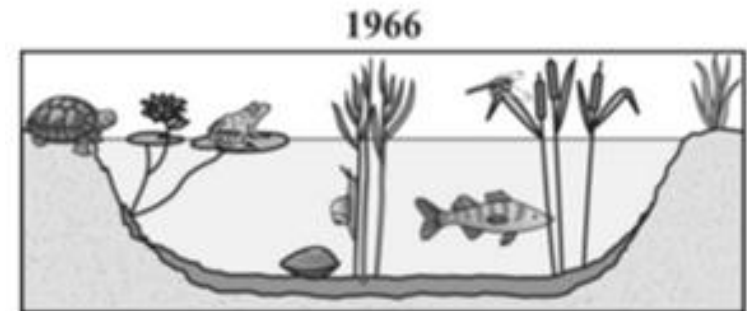
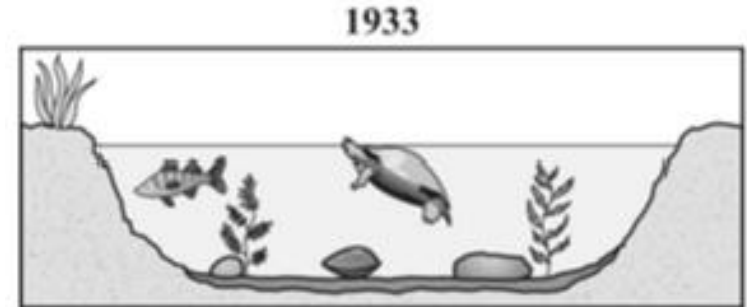
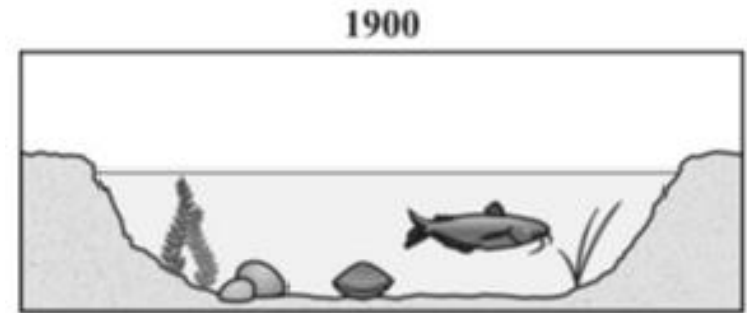


Freshwater lakes also undergo ecological succession. A hydrosere is a succession that starts in *water*.



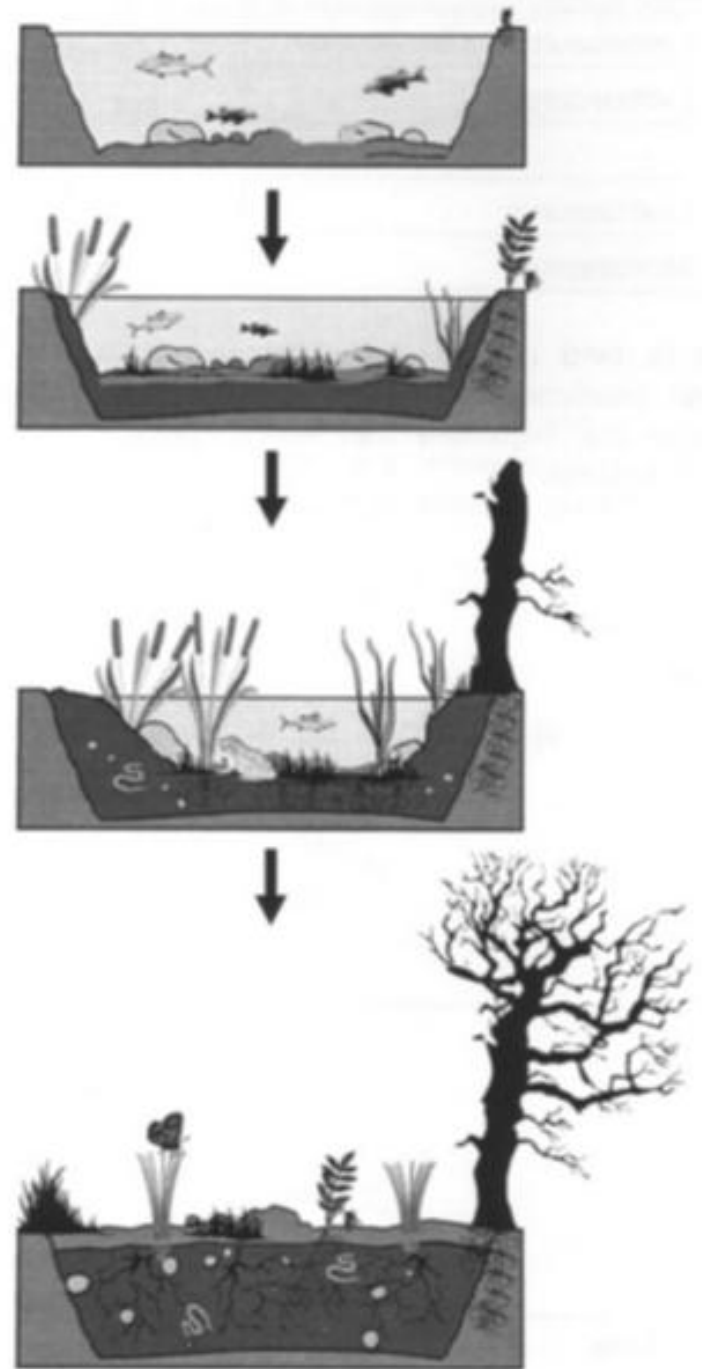
# Ecological Succession

Sediments are deposited at the bottom of the lake, and over time these sediments begin to fill the lake with soil.



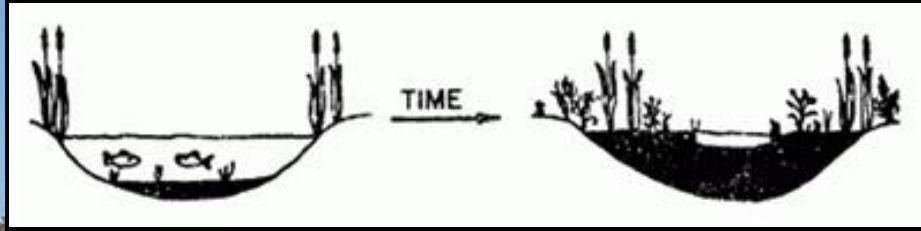
# Ecological Succession

Sediment can be *soil* washed into the lake, but decaying leaves, tree limbs, and dead organisms fall to the bottom of the lake filling it up and adding organic nutrients.





# Ecological Succession



Eventually, *sediment deposition* turns lakes into swamps and marshes.

# Ecological Succession

Finally, the pond will be completely filled with soil and dry up making way for a stable climax community to form in the fertile ground that was once a lake.

