



# What can diatoms tell us about the past?

We can separate the diatoms we find into 2 categories: benthic and planktonic

**Benthic diatoms** live on the lake bottom, attached to sediments or aquatic plants.  
**Planktonic diatoms** live suspended in the water column.

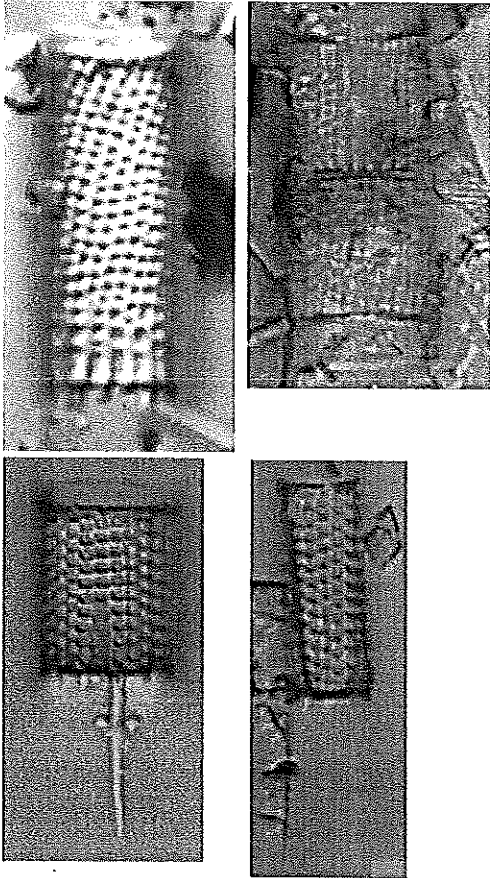
All diatoms need light to survive, so if the water is not clear enough, light will not penetrate to the bottom of the lake and benthic diatoms cannot survive.

We often look at the ratio of benthic to planktonic diatoms in our sample to get an idea of how clear the waters were. For example, if a sample has mostly planktonic diatoms the waters were likely very murky and not enough light was reaching the lake's bottom to support benthic diatoms.

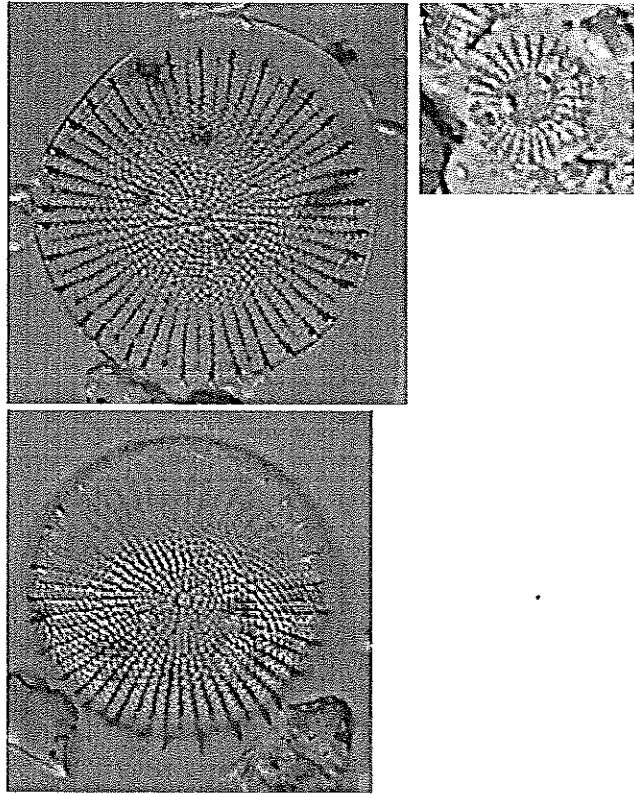
We also know about the optimal water conditions for certain groups of diatoms. For example, we know that diatoms of the genus *Stephanodiscus* are generally abundant when levels of phosphorus in the water column are high.

# Planktonic Diatoms

Aulacoseira

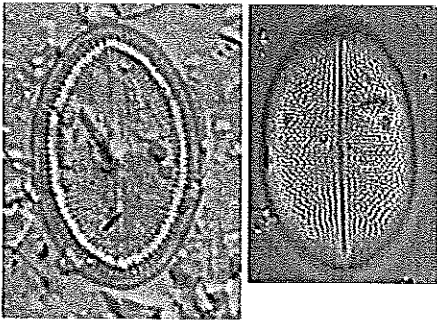


Stephanodiscus

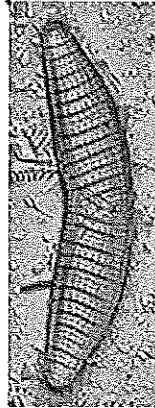


# Benthic Diatoms

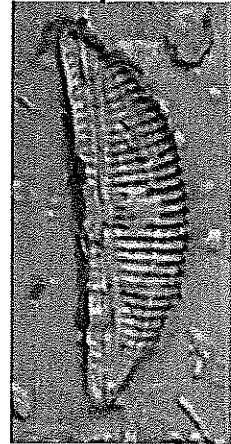
Cocconeis



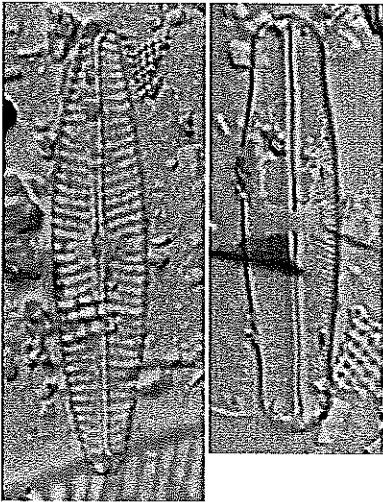
Epithemia



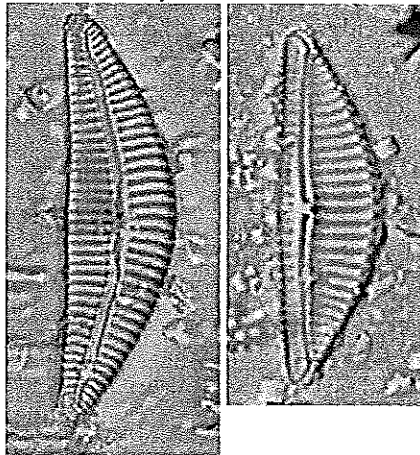
Amphora



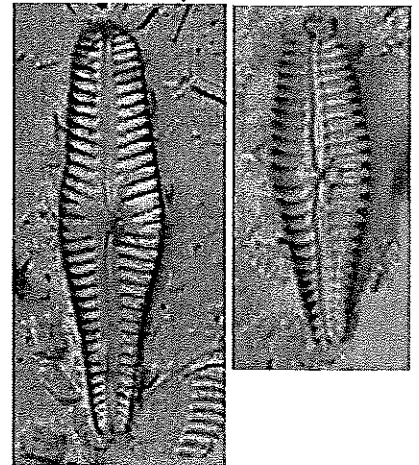
Navicula



Cymbella



Gomphonema



BLOODY LAKE 2002		BLOODY LAKE 1800	
Genus	Number of Diatoms	Genus	Number of Diatoms
Planktonic Diatoms:		Planktonic Diatoms:	
<i>Aulacoseira</i>		<i>Aulacoseira</i>	
<i>Stephanodiscus</i>		<i>Stephanodiscus</i>	
Benthic Diatoms:		Benthic Diatoms:	
<i>Amphora</i>		<i>Amphora</i>	
<i>Cocconeis</i>		<i>Cocconeis</i>	
<i>Cymbella</i>		<i>Cymbella</i>	
<i>Epithemia</i>		<i>Epithemia</i>	
<i>Fragilaria</i>		<i>Fragilaria</i>	
<i>Gomphonema</i>		<i>Gomphonema</i>	
<i>Navicula</i>		<i>Navicula</i>	
Other diatoms		Other diatoms	

What can we conclude?