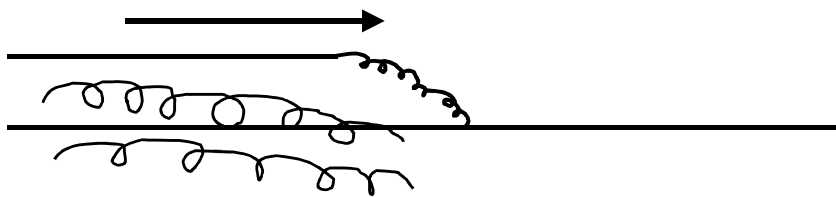


# THE RIVER'S LUNGS

Healthy water able to sustain aquatic & human life needs oxygen to prevent growth of harmful organisms, such as blue-green algae. Water is oxygenated by flow, turbulence or wave action. The water in The Lakes, because of their large area and shallow depth, is easily whipped into steep waves, ideal for trapping oxygen.



Thus the well-oxygenated lake water is forced upstream. Funnelling of the water between the banks increases the level within the river by often a metre or more. Since the average fall of the river between Lock 1 and Wellington is only 10 mm/km, this influx of water travels upstream a considerable distance, with effects noticeable well beyond Murray Bridge.

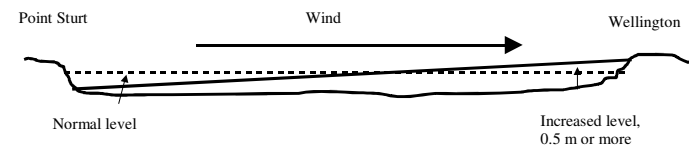


When the wind drops, or changes direction, the water cycles back towards the Lake. This induces an artificial flow which aids in oxygenation.

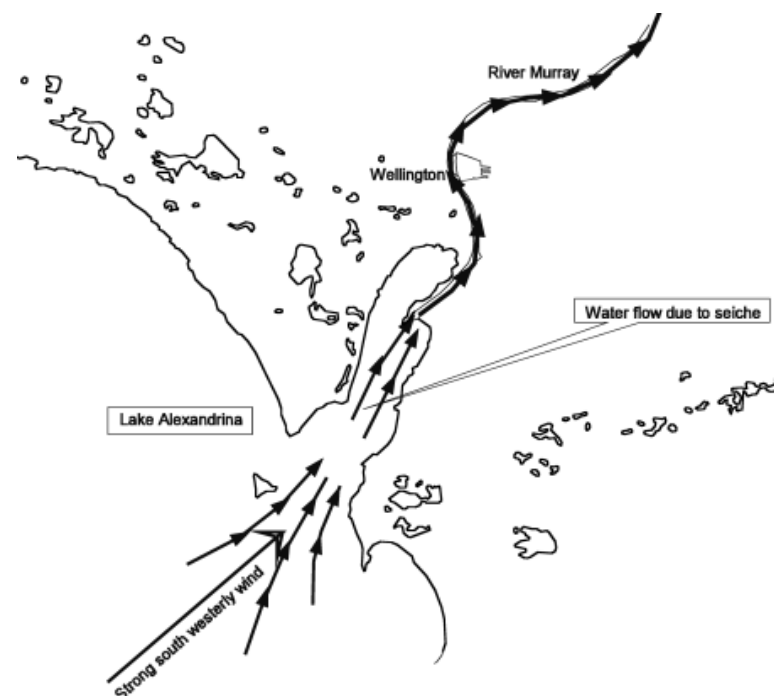
Local people are used to these oscillations in river levels:

- The ferryman at Wellington is constantly having to adjust the landing ramp position.
- From the wharf at Murray Bridge, the water can be observed to rise or fall quite rapidly around the pylons of the Railway Bridge.

Water in an enclosed lake is “heaped up” by the wind. This is known as a “seiche”.



During strong south-westerly or southerly winds, the seiche on Lake Alexandrina reaches its maximum height, on average 0.5 m, in the vicinity of the entrance of the River Murray at Wellington.



In times of low or zero flow, the river below Lock 1 is kept alive by these wind-driven surges of oxygen-rich water from Lake Alexandrina.

A weir at Wellington would prevent this exchange. The “sausage” of water trapped between Wellington and Lock 1, which includes Adelaide’s intake at Mannum, would rapidly become saline, stagnant and de-oxygenated, thus offering ideal conditions for the growth of blue-green algae. Such toxically contaminated water is unusable by anybody - irrigators, city dwellers and aquatic life alike.

