GLENBROOK LAGOON SCHOOL PROJECT

Do you know how the weeds came to be in the Lagoon?

We can't say with any certainty how the aquatic weeds were introduced to Glenbrook Lagoon, but one possibility is that an individual or individuals dumped the contents of their fishtank or pond into the Lagoon. Both *Salvinia* and *Cabomba* (the two main aquatic weeds at the site) were popular in the aquarium trade (now illegal as they are both noxious aquatic weeds and have been declared "Weeds of National Significance"). Both weeds can multiply rapidly from small fragments, especially in nutrient-rich conditions, such as those present at Glenbrook Lagoon (nutrient pollution has come from stormwater and sewage leaks).

Do you know when the weeds appeared in the Lagoon?

As far as I know, Salvinia and Cabomba have been present at the Lagoon since the early nineties and possibly longer. The trouble with these weeds is that they often go unnoticed until they have grown out of control.

What type or species of weeds are there?

The two aquatic weed species of most concern are *Salvinia molesta* and *Cabomba caroliniana*. See the attached pdfs for more information about these weeds.

.Is there a certain person or group who introduced the weed? Who is it, are they?

This is unknown. There have been some cases in Australia where unscrupulous members of the aquarium trade have introduced "aquarium plants" (i.e. aquatic weeds) into natural waterways and then gone back and harvested their "crop" for sale. Once these weeds take hold in a waterway they are almost impossible to completely eradicate. We have no evidence that this was the case at Glenbrook Lagoon.

Do you know what effects the weeds have on the Lagoon?

The weeds have drastically reduced biodiversity at the Lagoon – effectively 'choking' the system and making it unsuitable for the native plants and animals that would normally live there. The Salvinia (which is now in only very low densities at the Lagoon - thanks to the good and ongoing work of our contractors) floats on the water surface and shades out the native aquatic plants that would normally live there.

The Cabomba forms a dense forest below the surface, competing with native species for nutrients, light and space. It is so thick that it is a physical hazard, with the risk of organisms becoming entangled in it, and it seems to provide little habitat value for native species of organisms such as water bugs.

The weeds also have other effects on the Lagoon, for example causing wide diurnal (night-day) variations in dissolved oxygen levels. During the day, when the weeds are photosynthesising, they put oxygen into the water, but at night they respire, taking oxygen out of the water and causing it to fall to levels that are unliveable for many aquatic organisms, such as fish and sensitive water bugs. This may also happen as the weeds complete their lifecycle, die and are decomposed – a process which removes oxygen from the water.

It should be remembered that the weeds are not the root cause of all the problems at the Lagoon. The weeds only thrive there because it is a closed and polluted system, especially due to the nutrient inputs from stormwater and sewage pollution.

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