

Case Study – Bioremediation of Recreational Lake Gyömrő with Bioclean™ Lake/Pond Clarifier and Bioclean™ Aqua Fish

Area: 2,5 hectares


The lake is situated inside the city of Gyömrő, and struggling with heavy algae blooming and very high sludge production / year due to the multiplication and death of the autotrophic species. The nutrient load is very high, mostly from municipal source. The lake has an average depth, approx. 2,5 meters, which means that despite the eutrophic conditions, it has survived fish kills due to lack of DO in the past years. Since the lake has a key importance in the tourism of the city as it is functioning as a popular natural bath in the area, the bad water quality and continuous algae blooms were preventing the lake to act according to its role. We were appointed by the local government responsible for lake management to start the remediation of the lake in June 2008. The main focus this year was on algae, and aquatic weed control, decrease the yearly sludge production, and establishing oxidative conditions in the bottom zone for stopping gas production from the sludge. The microbes started to decrease the existing sludge layer as well by digesting its organic content. The lake has had no algae blooming at all. The Secchi depth has been varying from 133 cm – 162 cm. The improvement of water quality is shown in table below. A significant part of the microorganisms has settled to the bottom of the lake started the biodegradation of the organic sludge layer. The decrease of the thickness of the sludge was significant as well.

	2008	2009	2010
Ammonium (mg/l)	0,44	0,28	0,07
Free Ammonia (mg/l)	0,0005	-	-
Nitrite (mg/l)	0,13	0,09	0,05
Nitrate (mg/l)	9,5	6,52	2,8
Ortophosphate (mg/l)	0,19	< 0,05	< 0,05
Total Algae Count / ml	19 402	11 220	3 488
Sludge Thickness (average in cms)	40,00	35,50	31,70



...very close to drinking water quality

I confirm the authenticity of the data introduced above:



 Génesz Levente
 Vice Mayor of Gyömrő



 Zsolt Szabó
 President of Gyömrő Anglers' Association