

**Lake Órbottyán (Area: 18 hectares)**

The local fisher's association which is responsible for the lake management had been struggling in the past summers to stop heavy algae blooms which was due to high nutrient penetration from the agricultural lands and retail wastewater nearby. Yearly sludge production of the lake is very high due to the huge amounts of algae produced and died each year. Due to this fact the width of the sludge layer is rather high, the sludge itself is unstable, rotting with a high odorous gas (mainly Hydrogen Sulphide) production. Bioremediation of the lake has started in 2008. has resulted a significant improvement in case of improving water quality. The lake has survived algae blooming in 2008, 2009 and 2010 due to the treatment. The fact that the nutrient penetration from the soil and groundwater is continuous, and the initial total algae count was rather high, the pace of bioremediation has been decreased. The nutrients are released from the cell mass when algae dying. Despite the hindering factors, we have reached a reasonable success in every terms of water quality, as the table below shows.

The project concluded with an outstanding success due to the very intensive treatment in 2009. especially in handling the sludge thickness! For the start of the season the water quality has become first class, Secchi depth increased (varying from 72 cm – 91 cm), there were no algae blooms, fish kills stopped on the first week after the first treatment.

<b>Lake Órbottyán</b>	<b>2008.</b>	<b>2009.</b>
Ammonium mg/l	0,12	0,07
Free Ammonia mg/l	-	-
Nitrite mg/l	0,09	0,07
Nitrate mg/l	36,0	20,0
Ortophosphate mg/l	0,25	<0,05
Total Algae Count / ml	6 562	905
Sludge thickness (average in cms)	89,57	26,69



*Popular destination for anglers*