

Case Study: Kaipara

Company: Kaipara District Council
Location: Mangawhai, New Zealand
Year: 2009
Description: Tertiary Effluent Filtration
Goal: Remove parasitic Helminth Nematode eggs, reduce turbidity and TSS
Capacity: 20 m³/hour
Water Source: Municipal effluent



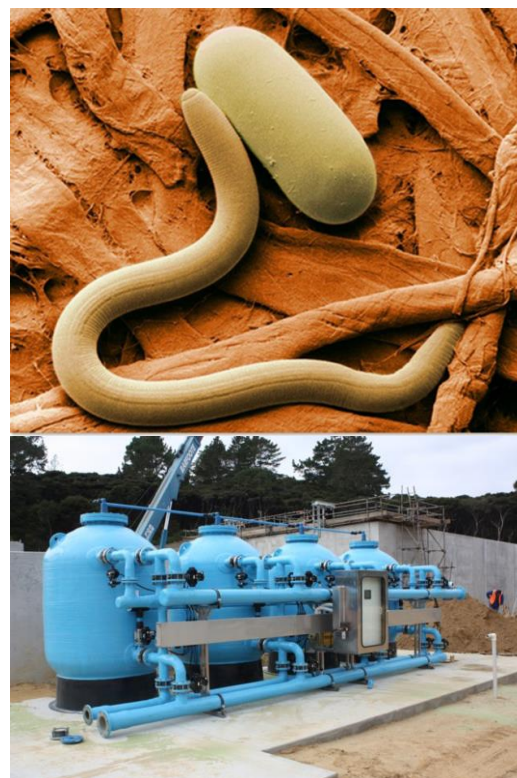
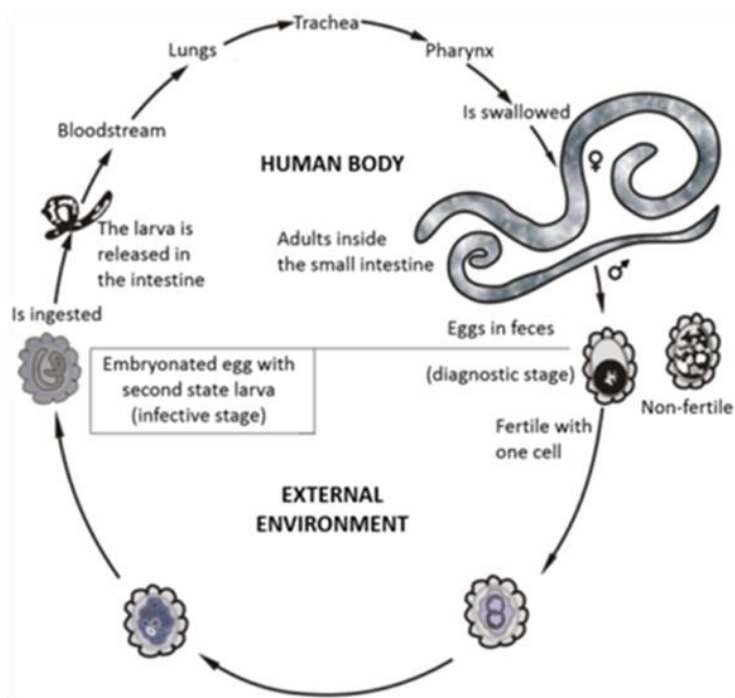
The Problems:

- ❖ Mangawhai is a water-surrounded popular tourist resort, on New Zealand's east coast.
- ❖ Its population grows considerably during the summer months, and septic tank effluent was causing poor water quality in the harbour.
- ❖ The wastewater contained a high concentration of the parasitic nematode *Ascaris* spp. The worm infects the blood, lungs, internal organs and can grow up to 35cm in the intestine. The nematode can prove to be fatal. The infectious egg (40 µm) must be removed from the wastewater to allow it to be used for irrigation.

Technical Solution:

- ❖ AFM® - Activated Media filtration with coagulation, implementing a filter with 1600mm diameter.
- ❖ AFM® filter auto-cleaning with a combination of backwash water and air scouring





Results:

Parameter	Required Value	Before treatment	After treatment
TSS (mg/l)	< 10	100	< 1
Turbidity (NTU)	< 5	Up to 50	< 2
Helminths (parasites)	None	High	NIL

During the period no nematode eggs were detected in the product water from the AFM filters.