FACT SHEET

Biolytix on Holiday Homes

There is a perception with some engineers and at some Councils that the Biolytix wastewater system is not an appropriate selection for holiday homes where flows will be intermittent and where there may be no fresh "food" for several months at a time.

The facts are that the majority of Biolytix systems in New Zealand are installed at holiday homes and have effluent levels that are compliant with the typical secondary treatment criteria. The following table shows the treated effluent quality from four randomly sampled holiday homes on Waiheke Island in Auckland's Hauraki Gulf. The BioPods were between one month and four years old. All systems were odourless and had crystal clear looking effluent samples. The treated effluent from all systems met secondary treated effluent criteria.

Location	Biochemical Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)
Nikau Street	21	18
Queens Drive	3.6	5
Fairview Crescent	4.6	6
Le Roy Road	<2	10

Table 1: Waiheke Island holiday home effluent quality

A similar sample of holiday homes in the Marlborough Sounds also demonstrated compliance with secondary treated effluent standards. Both these results are consistent with feedback from Biolytix maintenance contractors that BioPods on holiday homes tend to have less maintenance requirements, have the healthiest looking filter beds and the clearest effluent. The key reasons that the BioPods operate so well with intermittent flows are:

- The BioPod is essentially an advanced Trickling Filter process with Tiger Worms, *Eisenia fetida*, added to enhance the reduction of solids in the filter. The tiger worms are at the top of the food chain in a BioPod but all the other aerobic micro-organisms typically expected in a wastewater treatment process are also present to assist with the break down of the organic and solids loads
- Even without loading for several months the BioPod remains a moist, aerobic environment with an abundance of organic content to sustain the populations of worms and other aerobic microorganisms
- During unoccupied periods where there is no fresh 'food' entering the BioPod worms and other organisms feed on and break down the residual organic content in the filter. This process is common to all aerobic wastewater treatment technologies and is known as endogenous respiration
- Organism populations will slowly decay when there is no fresh food and will grow when flow is reintroduced. Populations swell and contract to meet requirements
- Juvenile worms emerge from cocoons two to four months after they are laid adding to the worm population even without fresh food
- The physical filtration process inside the BioPod continues regardless of whether the dwelling is occupied resulting in the low levels of residual particulates and organics in the treated effluent.

Our advice to BioPod owners is that if you have been away from your BioPod for more than 6 months you should let your Biolytix maintenance contractor know so that at the next service the worm activity can be assessed and additional worms added if required.