

Northland Regional Council Hearing: Far North District Council WWTP Hokianga

Emerging Organic Contaminants Update 19 May 2023

Monitoring for presence of Emerging Contaminants (ECs) in Treated Wastewater

Recommend immediate monitoring of wastewater for the following ECs so that their presence is at least understood before decisions are made regarding the continuation of a culturally offensive, scientifically flawed, and outdated engineering approach to the communities' wastewater. Land-based alternatives or as a minimum pre-treatment at source using vermicomposting units offer a significant reduction in the risk posed by the current proposal, An investment in a more resilient solution that is superior in every sense is wise when the fallibility of wastewater treatment plants and the increasing weather instability from climate change are considered.

Summary of discussions with ESR, Cawthron and Grant Northcott during May.

My recommendation would be to test for specific drugs rather than testing for what companies are already doing. The reason is that is our community has particular EOCs that are more likely to be present (and therefore a higher likelihood of detection) and some of the research indicates that these EOCs are better to test for in terms of their behaviour through the WWTP process.

1. Metformin or Trimethoprim

Metformin is prescribed for people who have type 2 diabetes or are at risk of diabetes. Metformin is present in wastewater discharges. Metformin was a good indicator because it was not attenuated through a WWTP. Trimethoprim (similar?) passes through patient and WWTP unchanged. Wikipedia says that Trimethoprim is not metabolised and that around 90% is excreted within 24 hours.

2. Cytostatic

Cytostatics (Kemo drugs) are relevant for the community as well for similar reasons to above.

3. Anabolic Steroids

Performance enhancing steroids used by body builders and athletes are relevant for the community as well for similar reasons to above.

4. Birth Control

The birth control pills (various) are in wide use and are a known endocrine disruptor. Suggest that this is also relevant.

5. Methamphetamines

Note ESR are currently considering widening their testing which is primarily around illicit drug use such as Methamphetamines. ESR are also very keen to work with Māori communities on projects that Iwi are identifying as high priority.

AS ESR already work with WWTPs all over Aotearoa NZ and had significant success with regard to detecting COVID strains in WWTP and tracing these, I would look at this option. ESR also have existing relationships with local Iwi, and these should be leveraged to involve ESR in this monitoring.

The research shows that emerging contaminants such as certain pharmaceutical compounds are not removed in the treatment and that they interact with soils differently.

Louis Tremblay louis.tremblay@cawthron.org.nz led a project drafting the EOC Strategy document which might be helpful background and is provided.

Mauri ora!