Manaaki Whenua
Landcare Research

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Short webinars for environmental policy-makers and practitioners

2021 Release of the Aotearoa New Zealand Strategy for Emerging Contaminants

The following questions were asked during our live webinar with Graham Sevicke-Jones and Dr James Ataria but due to time restrictions, we were unable to answer these in the session.

My understanding has always been that genetic modification is a violation of the mauri inherent in living organisms - Are Maori advising this forum or kaupapa still staunchly pro-nature and pro-Mauri, or are some Maori leaning towards monopoly and homogenisation as a New Zealand Ideal?

Thank you for this question. Firstly, genetic modification is not considered as an emerging contaminant issue with the scope of the USGS definition that we have adopted for this national strategy. However, the issue of genetic modification has been the subject of some debate and there exists literature on cultural responses to this issue, particularly in Environmental Risk Management Authority (now the Environmental Protection Authority) decisions around genetically modified organisms. If you have interest in the diversity of Māori views that were expressed, then we would encourage you to contact the EPA directly. Leading up to the release of this strategy, Māori who have engaged in discussions on chemical and microbial emerging contaminants have consistently talked of the need to protect the life supporting capacity of our natural world and preserve and enhance their ability to continue engaging and interacting with the natural ecosystems against anthropogenic stressors. Emerging contaminants have the potential to negatively impact on both of these for reasons that are unique to a Māori cultural worldview, but also for reasons that will be shared by other New Zealanders. In regard to homogenisation, I don't believe that is the case, Whakapapa still remains relevant and in the context of how Iwi will recognise the influence that will be unique to the whenua in their rohe.

How do you deal with the problem of central government wanting to be in charge?

As described in the webinar this strategy has arisen from an eclectic group of concerned citizens which have worked largely independent of government processes. Implementation of the strategy requires a suitable home which on one hand could be. We believe its successful implementation will be done from the perspective of everyone involved.

Something that is often missed is that when the contaminant is phased out, contaminated soil, sediment and water remain. At what stage in the framework do you engage with contaminated land practitioners?

This will be an evolving process. The approach is multi-tiered as the solutions are likely to be multi-faceted. The 1st objective from the research side is to identify contaminants that are persistent in the environment and pose a risk to exposed biota and ultimately, human. Once we have a list, the next step will be to rank their risk so that resources can be effectively used to achieve maximum gains. This is where there will be a need to engage multiple stake holders to develop fit for purpose solutions. The korero will have to take into account the function of the chemicals and whether there are more friendly alternatives. If not, then the solution will have to take into account how to better manage waste and in which compartments the chemicals are likely to accumulate, if that's in soil, then these practitioners and other relevant experts will need to be engaged.

Have you engaged with the Parliamentary Commissioner for the Environment during this work?

Yes, we are working closely with colleagues from the PCE on their initiative on contaminants.

Is a National Environmental Standard being developed?
This research is in the early stages of identifying and characterising the risk of Emerging contaminants (ECs) that may lead to impacts. Once we have confirmed a list of ECs, then the next step will include the development of protective NES.

Are MPI looking at a list of unnecessary items such as personal care products and perfumes and household deodorisers and looking at restricting their importation?

This is a role the Environmental Protection Authority Hazardous Substances (EPA HSNO) team plays. This can be a lengthy process, but the EPA is part of the ECs project as they are a member of the National Advisory Panel.

Is there a link to those three documents please?

They will be made available - in the meantime, please don't hesitate to contact the team members to request copies.

Has the panel been in touch with testing labs to see if they are accredited to do the tests and some sample suites to test?

As ECs are quite specific and outside the main pollutants being monitored there are limited options. There are exceptions like PFAS (per-and poly-fluoroalkyl substances) and pesticides.

How does any approach contained in the strategy link to a central government approach, e.g., the national working group on PFAS products?
The strategy provides an overarching pathway to enable the safeguarding of Aotearoa NZ against emerging contaminants. The implementation of the strategy is to meet the goals but is not intended to be directive for other initiatives (such as PFAS which emerged as an issue of concern), but rather help guide and enable connections across other government initiatives. We recognised the need for greater connectivity and coordination across agencies which is part of the role of the national advisory group which has representation across iwi, central, local government, and industry. When an issue has emerged then they tend to adopt a singularly focussed approach, which is often the right course. An

overarching strategy provides the ability for the feedback and learnings to be applied elsewhere and most importantly to assist in preventative controls and behaviours.

Is there research into emerging nitrate contaminants? This is of huge concern here in Southland.

This research programme is focussed on man-made chemicals, but the ultimate aim of the Strategy is to ultimately provide a framework to address any emerging issues.

Recognising our limited resources will be looking at class-based analysis to acknowledge risk such as in water basins?

This is a broad issue with 1000's of chemicals. The approach used is to identify the ECs that pose highest risk so that we can develop solutions to manage these risks. Ultimately, the idea is to try to develop better processes to identify harmful chemicals before they become a problem.

Are pest control toxins among emerging contaminants? (With Predator Free NZ looming)

We set the net wide in terms of identifying ECs that pose significant risks. That way we can cover all contaminants and identify their sources, being a personal care product, medication or pest control agents etc.

Is NZ considering working with water and wastewater like Watercare to start regular monitoring of relevant ECs in drinking water, wastewater, and groundwater?

We are working backward at this stage, i.e., we're looking at ECs that persist in water and sediment. Once ECs of high risk have been identified, the next step will be to find the source(s) to look at solutions to reduce their release. If it's found in wastewater then it will be a question of whether we limit the use of chemicals a, b, c or better manage waste disposal practices or as a last resource, increase the level of treatment at the STP.

A theme to some of the questions is actually "source control" (i.e., restricting importation of potential emerging contaminants). What is the role of source control in addressing management of emerging contaminants?

Very good point. As per a few answers above, the identification and characterisation of high risk ECs is the first step. Then it will be a question of finding the source(s) and why is the chemical used in the first place. Then comes the hard part to fully restrict/deregister or if it is an essential chemical, how to better manage waste.

When talking about EC's, is the focus primarily on freshwater?

No. The issue of emerging contaminants is widespread across all areas of our environment (freshwater, estuarine, marine, terrestrial, atmospheric) and so naturally the strategy naturally needs to encompass all parts of our environment. We try to use a mountain to sea approach to capture most potential sources.

Industrial, commercial and municipal waste streams distribute these contaminants to our environment. How do we ensure that not only the immediate impact on that environment is manged and monitored but the impacts on the food chain are manged, monitored and prioritised considering NZ economic dependence on primary produce e.g. residues in animals products, impacts on animal health and biosecurity?

Very good point. This will be part of the characterisation of the fate and transport of high risk ECs. It is important to understand how ECs partition within the environmental compartments and that includes bioaccumulation in biota. We have colleagues from MPI and the New Zealand Food Safety Science & Research Centre (NZFSSRC) as the protection of our primary production sector is paramount. NZ's primary production export sector vulnerability to emerging contaminant issues has already played out through product burdens of certain chemicals and remains an ongoing issue. This strategy aims to rationalise research effort which would interact directly with other related parts of the food sector, e.g., New Zealand Food Safety Science & Research Centre (NZFSSRC) who this work is connected to.

Is there research into the sources of PFAS other than firefighting-foams in NZ?

PFAS research in New Zealand that categorically characterises the presence and biological impact of this large family of related compounds is very limited, but experts are of the opinion that landfills and wastewater treatment plants are also likely to be a considerable source of PFAS compounds.