Aotearoa/New Zealand 2019 Policy Proposals on healthy waterways: Are they Fit for Purpose?

Summary Paper

Excellent water quality is of paramount importance for our Treaty obligations, for agriculture, our tourism industry, health & sense of national identity.

In September 2019 the Ministry for the Environment released proposals for national environment standards (NES) for freshwater: 'Action for healthy waterways – A discussion document on national direction for our essential freshwater'.

The Soil and Health Association and Physicians and Scientists for Global Responsibility have jointly published a document in response. Many organisations have added their names to demonstrate their support.

The document draws attention to the following:

1. Micropollutants, or contaminants of emerging concern (CECs) from agriculture, industry, & discharge of post-treatment effluent (to land & surface water) are ongoing sources of diffuse pollution. CECs include pesticides, plastics, petroleum products, pharmaceuticals, personal care & household products.
2. Pollution accumulates when constant emissions exceed the assimilation capacity of ecological systems.
3. CECs accumulating in freshwater (& groundwater) represent a growing ecological burden. Population stressors will continue and internationally, chemical production is expected to double by 2030.
4. Chemicals banned in Europe are present as chemical cocktails in New Zealand waters.
5. There is little data on the impact to native fauna – we don't really know the *local* impact of chemicals.
6. Hormones are chemical communication systems driving biological systems. Endocrine disrupting chemicals (EDCs) distort hormone function in humans & aquatic vertebrates - from development to neurological functioning. CECs can act as EDCs. Harm can occur at current exposure levels (permitted by regulators).
7. The OECD has drawn attention to our exploited natural resources and at risk species.
8. Not only ecological environments & children are vulnerable to pesticides. Farmers & applicators are more likely to become ill or experience adverse mental health from sustained exposure to agricultural pesticides.
9. Nutrient, sediment & bacteria controls are an important component of national standards. Controls for these attributes may *improve* water quality but without including *chemical contaminants* that have the capacity to damage ecological system function, current limits cannot ensure water is *safe* & *healthy*.
10. CECs (& trace metals) do not appear to have been considered by officials when establishing and discussing national environment standards for freshwater, by all appearances, since initial documents to cabinet recommended a framework for the process in 2011.
11. Ministry officials do not appear to have consulted with experts in CECs nor considered specific risk from EDCs in freshwater, nor considered the degree to which this represents a risk to future generations.
12. Standards that exclude chemical pollutants may not respect principles of the Treaty of Waitangi.
13. Failure to sufficiently deliberate on the risk (evident in international literature) from chemical mixtures may result in failure to fulfil statutory obligations requiring protection of future generations.
14. The STAG advisory group to the freshwater consultation were advised by Ministry officials that chemicals would be left out of the process because endpoints (thresholds) for CECs have not been established.
15. OIA requests have not revealed where this 'endpoint' advice was sourced from nor the scientific authority that provided the advice. There appears to be no 'paper trail' of consultation.
16. There is substantial evidence endpoints (thresholds) for many endocrine (hormone) disrupting and carcinogenic substances may never be established, particularly because the levels hormone hackers work, may be at parts per billion or trillion. *Uncertainty* to delay monitoring and regulation has no scientific basis.
17. Children are particularly vulnerable and hormone hacking chemicals can promote disease later in life.

18. Governments have a human rights obligation to protect children.
19. Our agrichemical legislation is outdated. It ignores mixture effects and does not sufficiently prioritise formulation & endocrine toxicity. Our regulators overwhelmingly rely on industry data to drive assessment.
20. Regulations do not enable the precautionary principle to be integrated authoritatively in assessment.
21. Source waters for drinking water are not monitored, and drinking water regulations do not, unlike Europe, control exposures from cumulative chemical mixtures.
22. Statutory obligations of public servants to protect environmental and human health and protect future generations may be undermined by current gaps. National standards that exclude such considerations may not be fit for purpose. Absent of standards, controls on polluting activities cannot be implemented.
23. In Europe, agrichemicals and urban runoff from diffuse pollution threatens water quality – lacking data, we can estimate pressures are equivalent, particularly due to industrial agricultural production.

The paper contains many suggestions for reform:

A. Take precaution to a meta-level – the precautionary principle rather than sitting alongside social, cultural or economic considerations, might instead be elevated as a meta-level umbrella principle.
B. Reasonable precautionary measures
    i. No exposure logic: CECs with carcinogenic, mutagenic, endocrine disrupting properties, and/or act as developmental neurotoxins or immunotoxins, should not be registered or used.
    ii. Acknowledge the scientific fact of non-monotonic dose responses, higher risk at hormone level
    iii. Ensure formulation data is publicly available
    iv. Enshrine obligation for mixture risk assessment in legislation.
    v. Control cumulative exposures to chemical mixtures at low levels.
    vi. Prohibit trace metals in pesticide formulations
    vii. Assessment must incorporate precaution regarding prenatal, infant and childhood vulnerability
    viii. Drinking water – at a minimum harmonise with European standards which include cumulative controls on total chemical (& metabolite) exposures (0.5µg/L).
    ix. Hazardous substances: harmonise with European authorisations for pesticides & chemicals.
    x. Monitor source waters for drinking water.
    xi. Ensure data and assessment is independent from the industry with the vested interest.
    xii. Recommence data capture of tonnages of active ingredients (imported/locally produced).
    xiii. Invest in nutrition and soil science: fund long term studies of farmers working in the regenerative agriculture/organics sector to improve soil management and fund soil, carbon capturing and nutrition science-based extension services across the farming platform.
C. Science for the environment.
    i. Ensure national screening of chemicals (freshwater and sediment) is not charged to regions
    ii. Protocols and methods used by laboratories for public testing must be publicly published
    iii. Levels of detection and reporting reflect international best practice.
    iv. Funding for interdisciplinary science researching EDC impact – human and environment.
    v. Resource experts in predictive analytics and statistical techniques, including data mining, machine learning and predictive modelling to engage in interdisciplinary research work to estimate risk from mixture effects at hormonally relevant levels.
D. Follow OECD Recommendations:
    i. NZ already has environmental limits on many chemicals, and can use European standards where there are data gaps to estimate risk from chemicals in freshwater/sediment.
    ii. Monitoring of diffuse chemical pollution in freshwater/ sediment can commence immediately and results can be published publicly.
    iii. Fund cross-sector experts including public health scientists & ecotoxicologists to analyse data.

Document:

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The following non-government organisations support this document:

Safe Food Campaign

PAN ANZ

for the love of bees

NZ Federation of Freshwater Anglers

Whitewater NZ
Mo te aroha o nga awa

Biodynamics New Zealand

WEGC
Waitaha Executive Grandmothers Council

ODPG
Organic Dairy & Pastoral Group Inc

Certified Organic Farm NZ

Katikati Taiao

Manu Waiata Restoration & Protection Society

Orari River Protection Group

COBY
Coromandel Our Backyard
Te tiakitanga o nga whenua hei paitini kore.

Kuaotunu Environmental Action
ngā rongoā māori o te whenua

Otago Organics

Flora & Fauna of Aotearoa

Te Waka Kai Ora

Weed Management Advisory

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Environment River Patrol E.R.P. Aotearoa NZ

GE Free Aotearoa New Zealand

The following private sector organisations support this document:

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