Environmental Protection Authority
Te Mana Rauhī Taiao

Updates on PFAS regulation in New Zealand

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Manager Hazardous Substances Reassessments

22 November 2024

3, 30, 300 years
Our intergenerational strategy

Our vision

An environment protected, enhancing our way of life and the economy

Our strategic goals

- Protecting people, and the environment
- Delivering the right decision
- Strengthening trust in the EPA

Our strategic priorities

- **Environmental leadership**

  Being a proactive regulator, an environmental steward, and our approach to decision making, compliance, monitoring and enforcement.

- **Connecting with New Zealanders**

  Promoting awareness of our work, inspiring people and businesses to protect the environment, and strengthening trust in us.

- **He Whetu Marama**

  Connecting with Maori and recognising our work can be more inclusive and effective when we incorporate Māori perspectives.

- **Sustainable organisation**

  Ensuring our systems and resources support a sound organisation and regulatory practices.

- **Regulatory performance**

  Ensuring quality decisions that make a difference to our environment and the best inputs into our decision-making.

What we stand for

- For nature
- A precautionary approach
- Taking a stance
- Waka houra — Collective action
- For the future

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Agenda

- The New Zealand regulatory landscape
- Firefighting foams
- Cosmetics updates
- PFAS groundwater sampling
- Compliance
- Next steps

The New Zealand regulatory landscape

Taumata Arowai

- Drinking water regulator
- Waste water regulator

OVERSIGHT

Territorial Authorities

- Drinking water delivery
- Waste water management

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- Hazardous substance regulator

The regulatory landscape

Hazardous Substances and New Organisms Act 1996

Import/Manufacture

Individual Approval

- Has approval document
- EPA sets the legal classification and controls (rules of use)

Group Standards

- Substance/product must fit under scope of group standard
- Scope is use and classification based

The regulatory landscape

substance means—

(a) any element, defined mixture of elements, compounds, or defined mixture of compounds, either naturally occurring or produced synthetically, or any mixtures thereof:

(b) any isotope, allotrope, isomer, congener, radical, or ion of an element or compound which has been declared by the Authority, by notice in the *Gazette*, to be a different substance from that element or compound:

(c) any mixtures or combinations of any of the above:

(d) any manufactured article containing, incorporating, or including any hazardous substance with explosive properties

The regulatory landscape

- NZ EPA a member of HEPA
- Contributed to HEPA PFAS NEMP v3.0

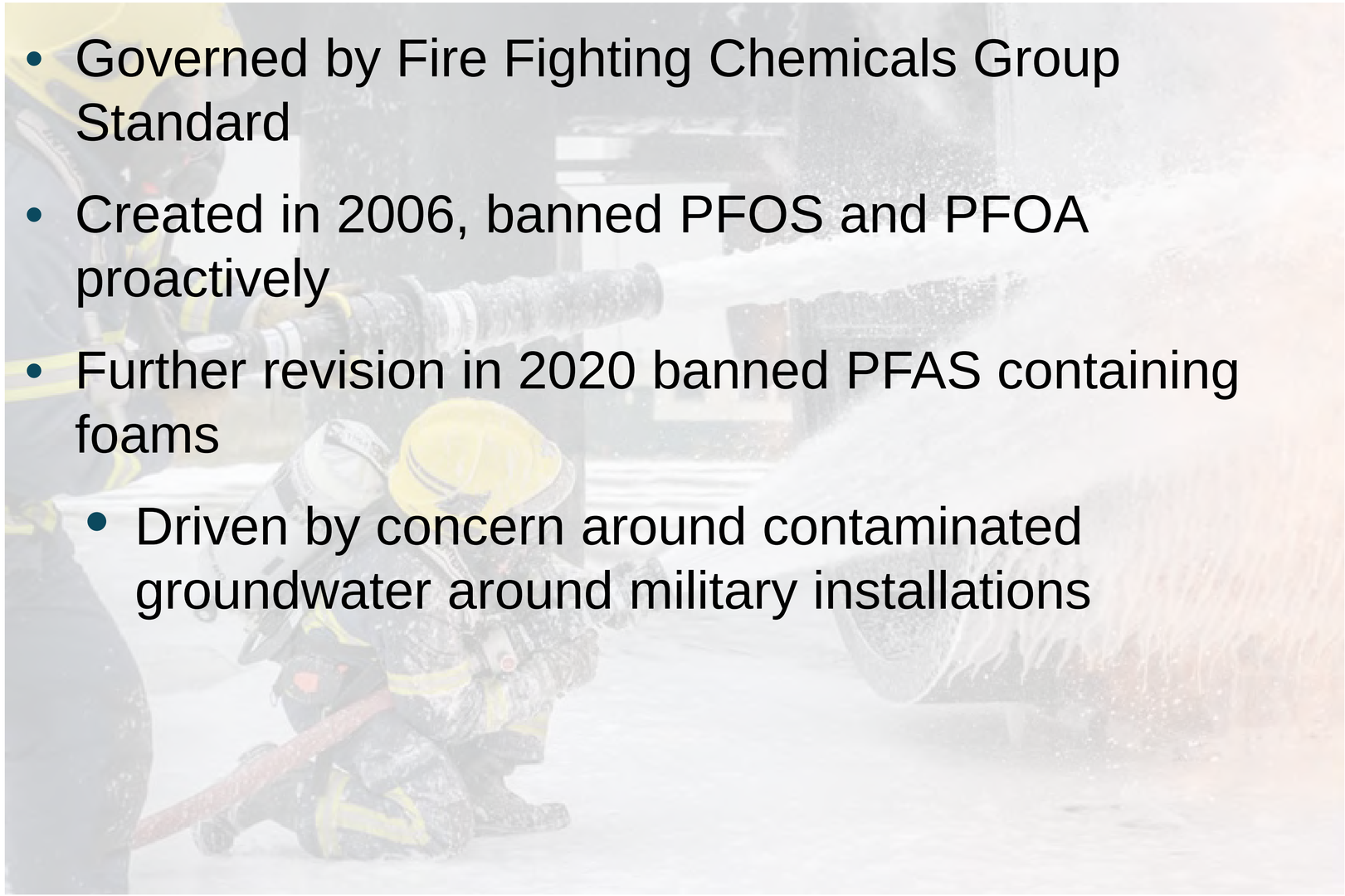
- Current Beneficial Use of Biosolids draft references NEMP

The concern in NZ

- Knowledge of PFAS in NZ a work in progress
  - Testing from near military fire-fighting facilities
  - Onehunga drinking water aquifer closure in 2022

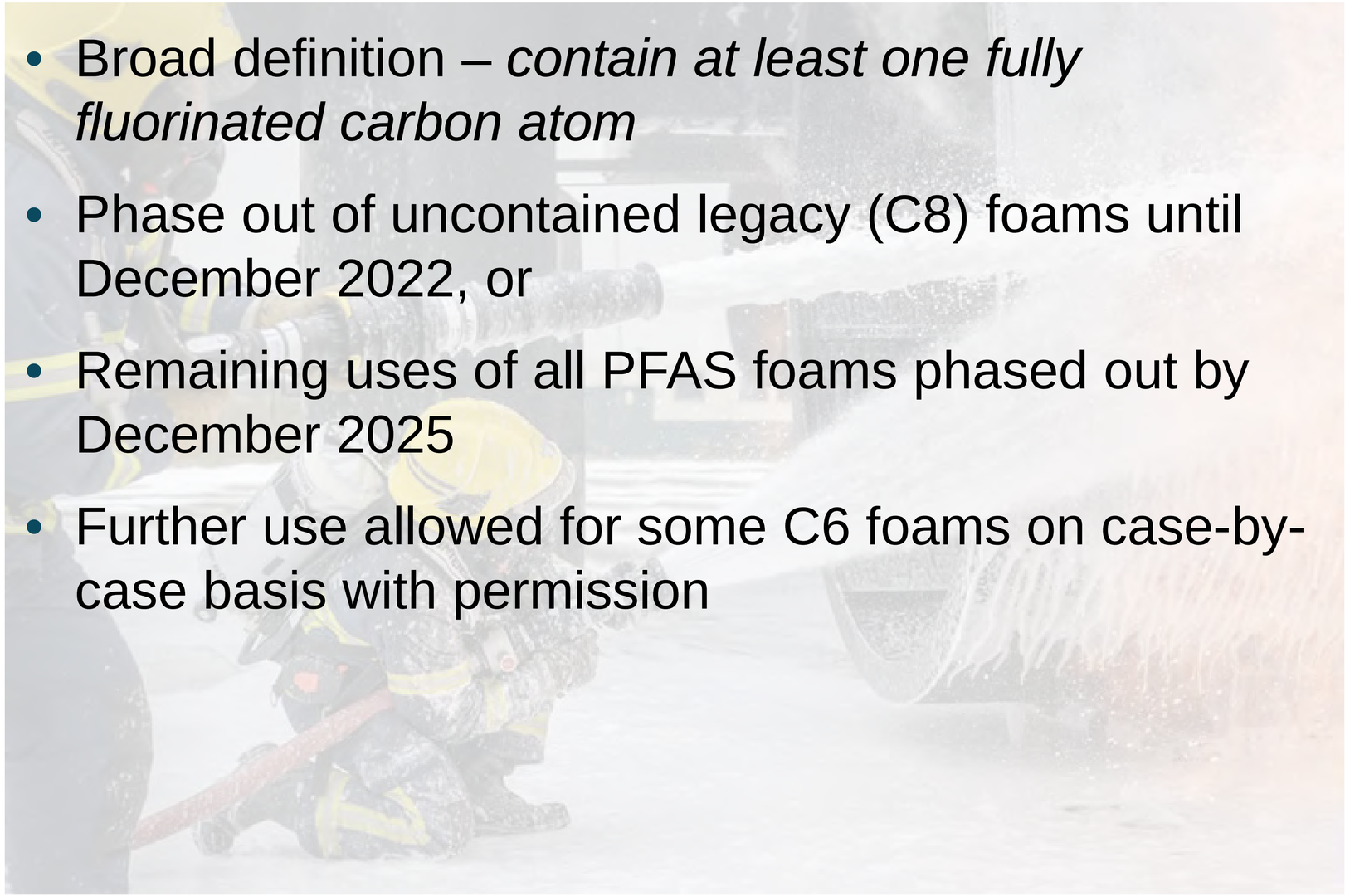
    Extensive upgrade to treatment facility ongoing
  - Environmental release Whangarei in 2021
  - Public concern

Firefighting Foams



- Governed by Fire Fighting Chemicals Group Standard
- Created in 2006, banned PFOS and PFOA proactively
- Further revision in 2020 banned PFAS containing foams
  - Driven by concern around contaminated groundwater around military installations

Firefighting Foams



- Broad definition – *contain at least one fully fluorinated carbon atom*
- Phase out of uncontained legacy (C8) foams until December 2022, or
- Remaining uses of all PFAS foams phased out by December 2025
- Further use allowed for some C6 foams on case-by-case basis with permission

Cosmetics Updates

- Rules for cosmetic products updated
  - Updated schedules on permitted and restricted ingredients
  - **Ban on PFAS components in cosmetic products**
  - Scope expanded
  - Other minor changes

- Changes enter into effect between end 2025 and mid 2028

Cosmetics Updates

- Ban on PFAS components in cosmetic products
  - General trend globally towards removing PFAS from non-essential use
  - Concern around eventual release into the environment
  - Human health concerns through exposure to cosmetics

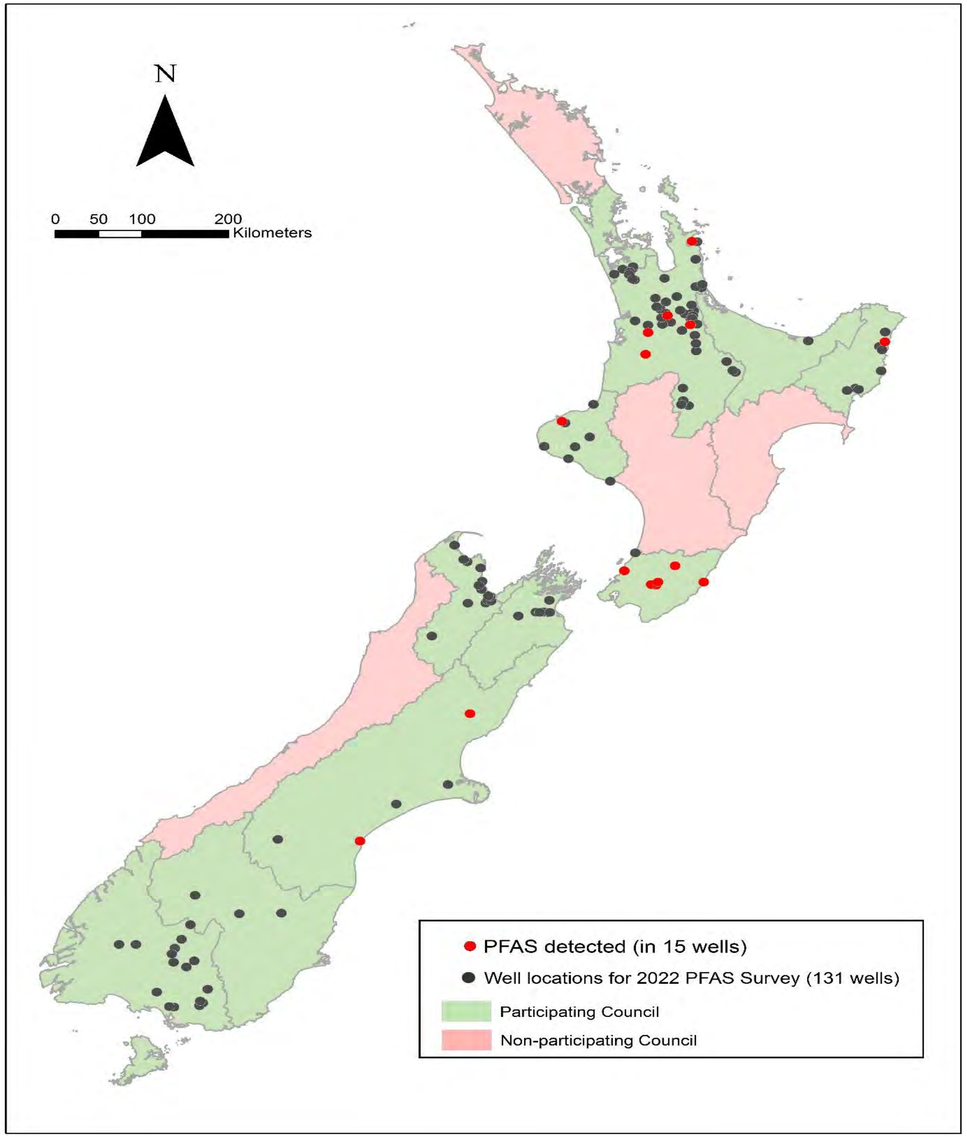
Cosmetics Updates

- Decision
  - Definition harmonised with that of the EU
  - Minimise trade disruption with EU, major cosmetics manufacturer
  - Agreed risks of use likely outweigh benefits
  - Alternatives are available for described uses (OECD)

PFAS Groundwater Sampling

- 4-yearly testing of groundwater for territorial authorities
- Testing for pesticides in groundwater
- Targeting
  - Shallow, unconfined, vulnerable aquifers
  - Significance
  - Past or present land use
  - Known or suspected pesticide storage and use

PFAS Groundwater Sampling



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PFAS Groundwater Sampling

- 131 wells samples
- 15 positive results
- Most commonly detected PFCA (max 2.8 ng/L)
  - PFBA (9 wells)
  - PFPeA (5 wells)
  - PFHpA (4 wells)
- PFSA (9 detections, max 4.8 ng/L)
- PFOS (max 16.5 ng/L – Cooks Beach Fire Station)

PFAS Groundwater Sampling

PFAS (# detections)	Concentration range (ng/L)
PFBA (9)	<1-2.3
PFPeA (5)	<1-2.3
PFHxA (4)	<1-2.0
PFHpA (1)	<1-1.5
PFOA (2)	<1-2.8
PFBS (3)	<1-4.8
PFHxS (total) (2)	<1-2.2
PFOS (total) (2)	<1-16.5
6:2 FTS (4)	<1-4

PFAS Groundwater Sampling

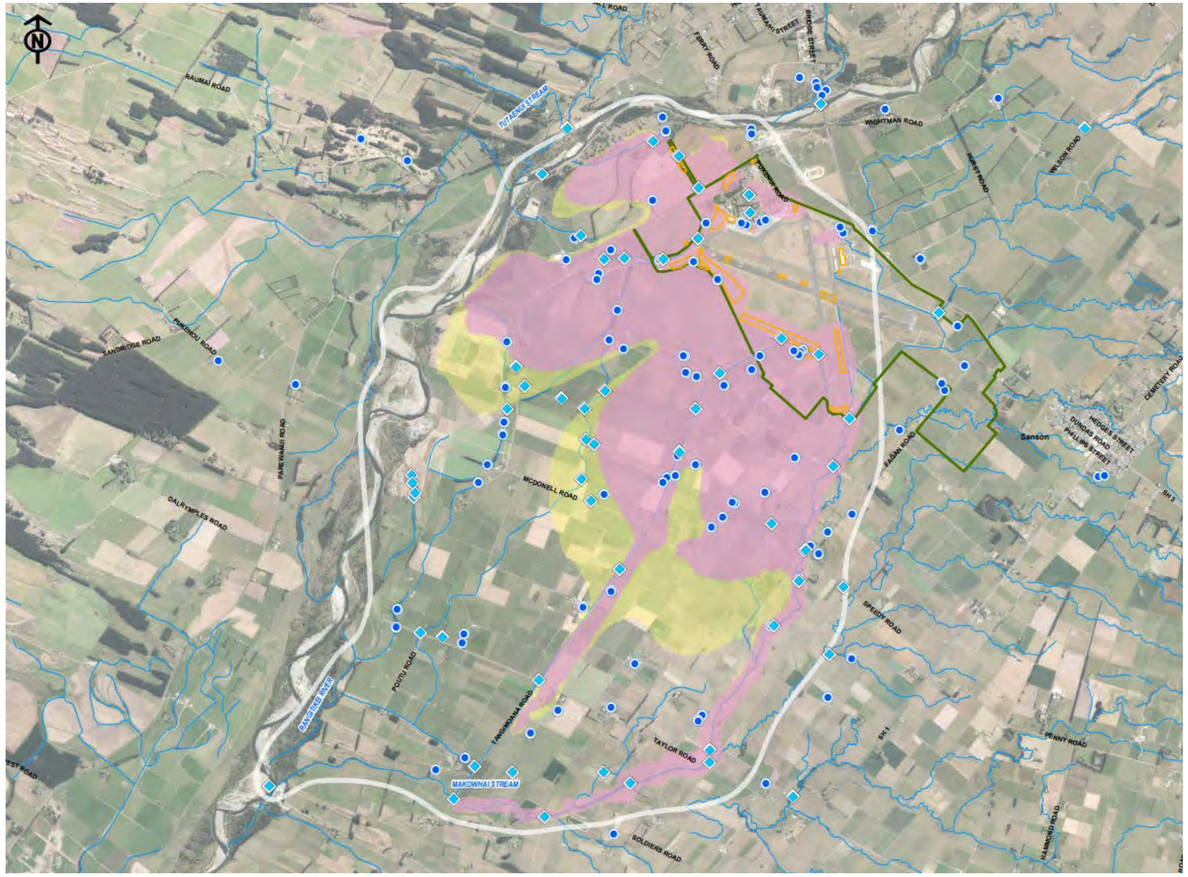
- 4 wells false positive due to contamination from peristaltic pump used in sampling
- Suspicions raised by high number of positives in one region
- Revised report released on EPA website

Compliance

- 2022 – first successful EPA prosecution for release of PFAS foam into the environment in 2021
- Training exercises at oil refinery used foams
- Used 9 times, up to 60,000 litres of diluted foam, unclear how much flowed into local harbour

Compliance

- Ministry for the Environment monitoring known contaminated sites



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Next Steps

- Drinking water
  - Limits governed by the drinking water regulator Taumata Arowai
  - Noted the changes ongoing in US and Australia
  - Typically we align with Australian values, though takes some time to assess against NZ conditions
  - Unclear how this will impact the HEPA PFAS NEMP

Next Steps

- Further testing
  - Universities drive a lot of the PFAS monitoring in their areas
  - Some funding available for central government
  - Currently reviewing if further testing makes sense, and where, in conjunction with other regulators

Next Steps – Chemical Map

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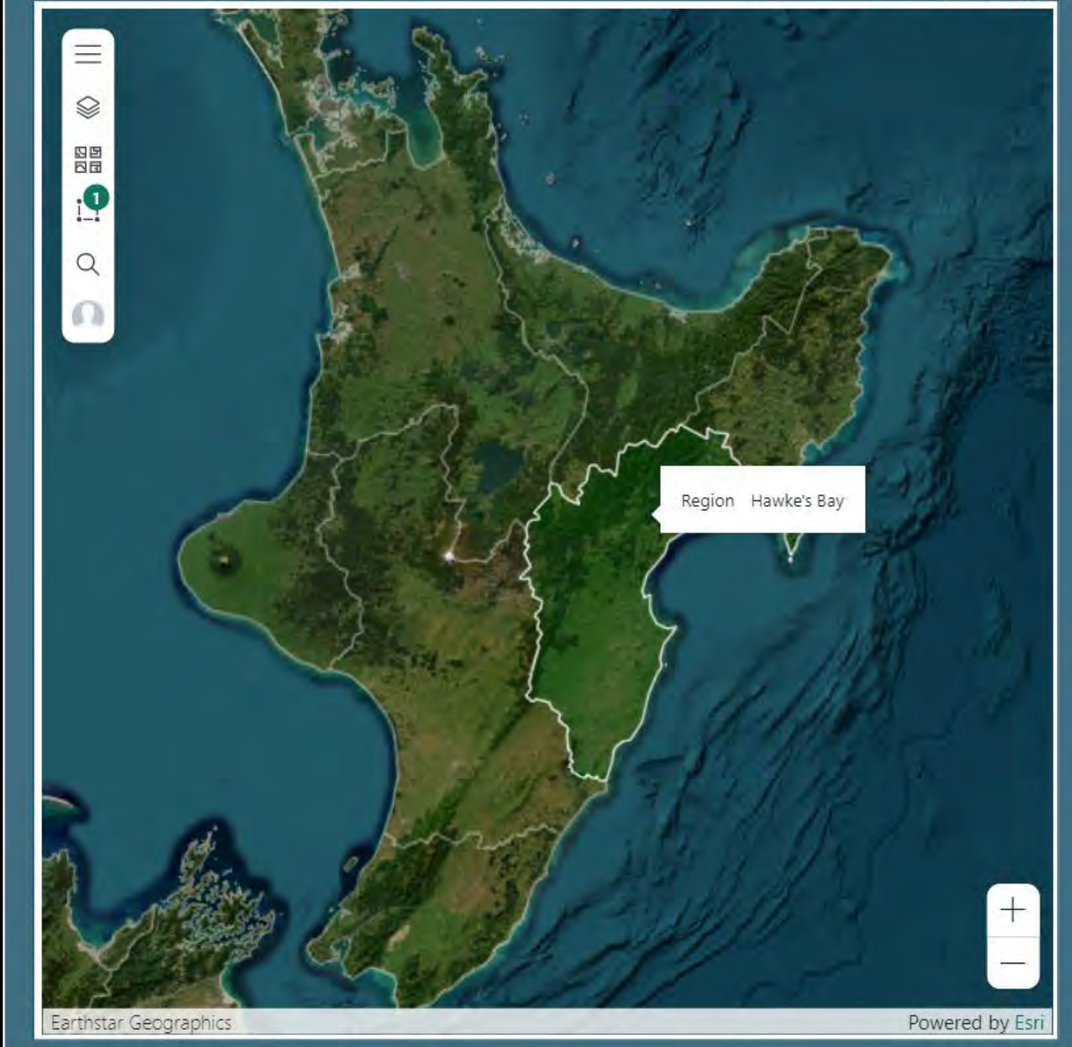
Chemical Map

Chemical Presence

Chemical Name: All | Crop: All | Region: All | Year: All | Pesticide Use Type: All | Pesticide Active Ingredient: All



Land Use | Environmental Monitoring | WorkSafe | Chemical Volume

Max Application Rate

Chemical Name	Max Application Rate	Unit	Applications per year	Max Load	Unit	Crop	Hectares
Uniconazole-P	1,500	g/ha	1	90	kg	Avocados	60
Triticonazole	18	g/ha	1	59	kg	Barley	3,300
Triticonazole	18	g/ha	1	16	kg	Wheat	900
Trinexapac-ethyl	1,000	g/ha	1	3,300	kg	Barley	3,300
Trinexapac-ethyl	1,000	g/ha	1	161	kg	Oats	161
Trinexapac-ethyl	1,000	g/ha	1	900	kg	Wheat	900
Triforine	285	g/ha	1	91	kg	Tomatoes	318
Triforine	380	g/ha	1	2,683	kg	Grapes	7,060
Triforine	380	g/ha	3	3	kg	Strawberries	3
Triforine	475	g/ha	1	5,040	kg	Apples	10,610
Trifluralin	816	g/ha	1	2,693	kg	Barley	3,300
Trifluralin	1,008	g/ha	1	3,674	kg	Lucerne	3,645
Trifluralin	1,008	g/ha	1	1,109	kg	Peas	1,100

Hectares

Crop	2017	2022
Apples	4,750	5,860
Apricots		71
Asparagus		24
Avocados	20	40
Barley	1,300	2,000
Blueberries		94
Boysenberries		2
Broccoli		94
Total	**12,310**	**189,523**

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EPA Chemical Map

Prioritisation - Overview

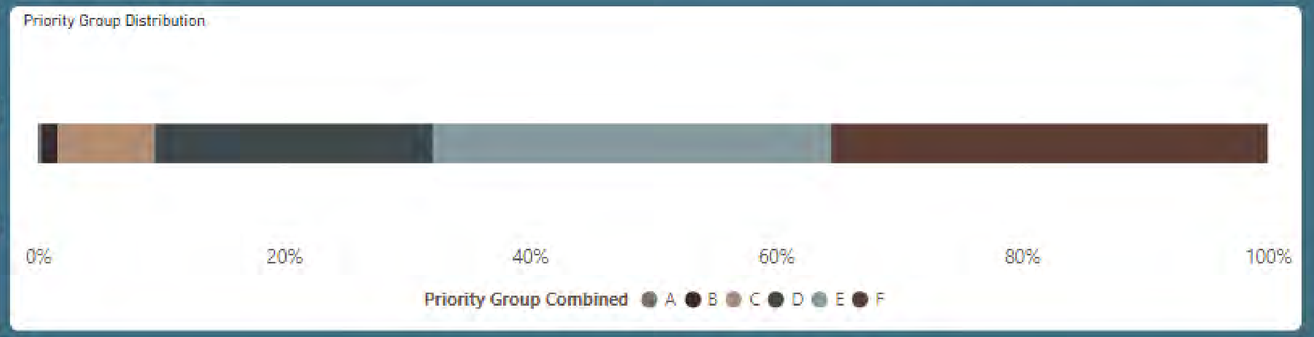
Priority Group: All
General Use Active Ingredient: All
Chemical Name: All
Pesticide Active Ingredient: True
CAS: All
Veterinary Active Ingredient: All
Data Source: All
Combined or not: All
Calculation Scenario: All
General Use Category: All
GHS Hazard Class: All
Pesticide Use Type: All
IUCLID Category: All
Vet Product Type: All
Entity Type: All
HSNO Approval Count: All

Reset Slicers

882
Count of Chemicals

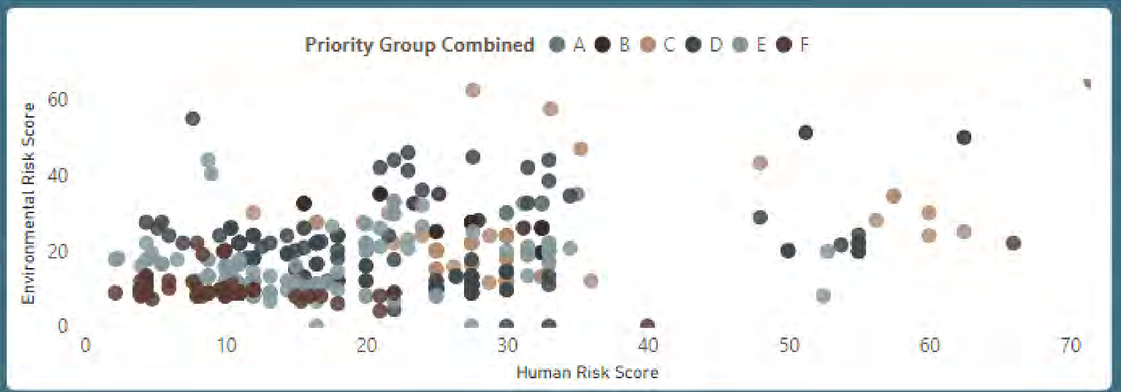
544
Count of IUCLID Chemicals

338
Count of Manual Chemicals



Prioritisation Results

Chemical Name	CAS	Data Source	Calculation Scenario	Priority Group	Environmental Category	Human Health Category	Environmental Hazard Factor	Human Health Hazard Factor	Environmental Risk Score	Human Risk Score	Scenario Risk Score
2-(Thiocyanomethylthio) benzothiazole	21564-17-0	IUCLID	Official	Combined D	C	E	10.00	6.00	21.00	12.60	33.60
Acrinathrin	101007-06-1	IUCLID	Official	Combined E	C	(no priority generated)	10.00		22.00		22.00
alpha-Cypermethrin	67375-30-8	IUCLID	Official	Combined C	A	E	10.00	4.00	30.00	12.00	42.00
Bifenthrin	82657-04-3	IUCLID	Official	Combined D	C	D	10.00	6.00	24.00	18.00	38.40
Bioresmethrin	28434-01-7	IUCLID	Official	Combined D	(no priority generated)	A	10.00	10.00		30.00	30.00
Chloropicrin	76-06-2	IUCLID	Official	Combined B	B	B	10.00	10.00	26.25	26.25	52.50



Modifier Values

Modifier	Value
Bio-accumulation	0.10
Domestic Use	0.10
Endocrine Disruption	0.10
FENZ Incidents	0.10
Groundwater	0.10
Hospitalisations	0.10
Other Real Life Impact 1	0.10
Other Real Life Impact 2	0.10
Other Real Life Impact 3	0.10
Persistence	0.10

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Chemical Map

Chemical Presence

Chemical Name: All

Most Recent Detection Date: 2024-06-01

Year: All

Dataset: All

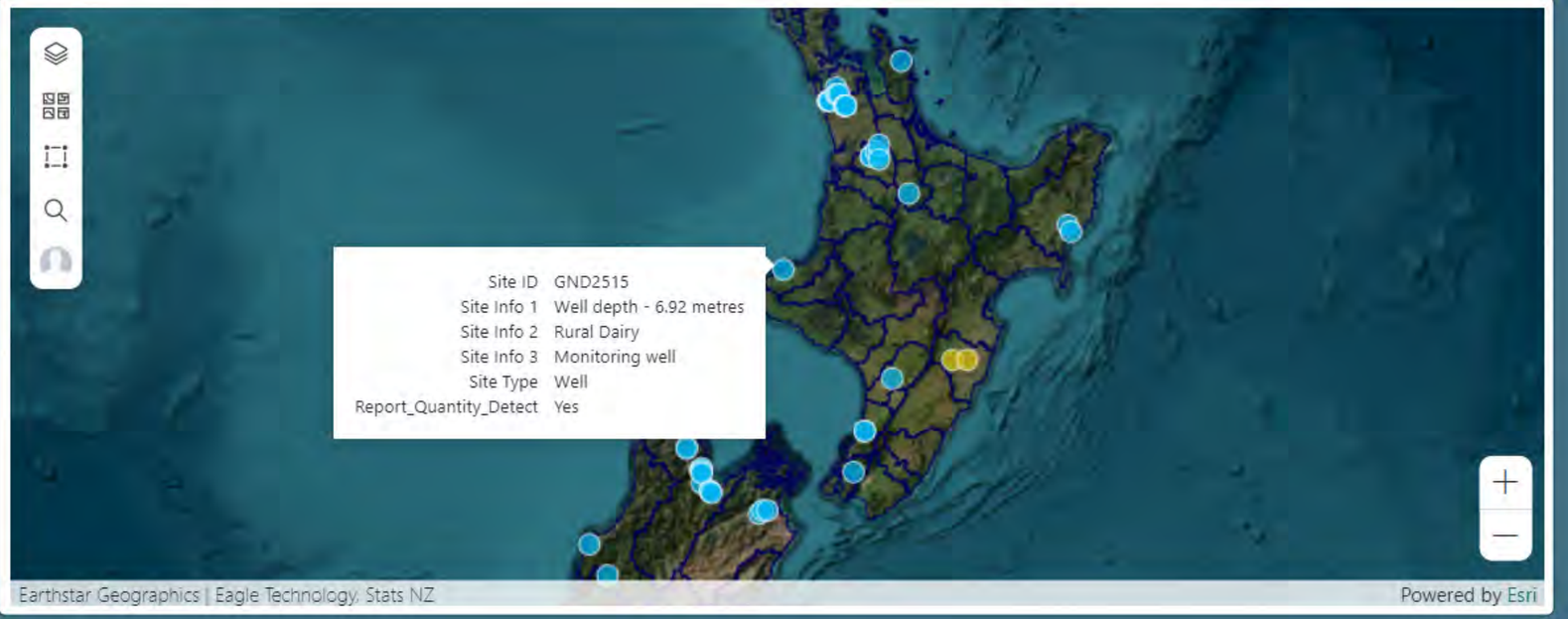
Chemical Detected?: Yes

IUCLID Hazard Class: All

Region: All

Above Reporting Threshold?: All

Land Use | Environmental Monitoring | WorkSafe | Chemical Volume



Monitoring Results

Chemical Name	2018	2022	2024
Terbuthylazine	2.15	0.28	
Terbacil	8.40		
Tau-Fluvalinate			0.15
Simazine	0.30	0.05	
Propazine	0.20	0.21	
Procymidone		0.28	
Picloram	1.31	1.00	
Metribuzin		0.36	
Metolachlor	0.13	0.20	
Metalaxyl	0.14	0.20	
Hexazinone	0.58	0.10	
Glyphosate	2.10		
Endosulfan REVOKED	0.22		
Dodine			0.05

Analytes

Dataset	Year	Chemical Name	Reporting Threshold	Threshold Units	Threshold Type
EPA and MPI Pesticides in bees 2024	2024	Difenoconazole	0.01	mg / kg	LOR
EPA and MPI Pesticides in bees 2024	2024	Dodine	0.01	mg / kg	LOR
EPA and MPI Pesticides in bees 2024	2024	Tau-Fluvalinate	0.01	mg / kg	LOR
National Survey of Pesticides in Groundwater	2018				
National Survey of Pesticides in Groundwater	2022				
National Survey of Pesticides in Groundwater	2018	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-			

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2025 CONFERENCE

BUILDING A LASTING LEGACY: OUR CHOICE, THEIR FUTURE

25–28 August 2025
Te Whanganui-ā-tara Wellington

SETAC AU / ACTRA 2025