

Is Your Utility the Next Poster Child for a Water Quality Governance Crisis?

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‘Poster Child’

“someone or something that is used to represent a particular quality”

(Cambridge Dictionary)



Poster Child of the Dunning-Kruger Effect

<https://me.me/i/poster-child-of-the-dunning-kruger-effect-18812571>

Could you be next?

- Do you know what your products and services are?
- Do you know who you supply products and services to?
- Where your water quality handover points are?
- What water quality requirements do you have at those supply or handover points?
- What is being monitored to ensure compliance with the requirements?

Death toll from Havelock North gastro crisis may rise

17 Aug, 2019 6:00am

4 minutes to read



Seven deaths are possibly linked to the Havelock North gastroenteritis outbreak in August 2016. Photo / File

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12259224

Local Govt
Equivalent:
Councillors



‘Corporate to
Coalface’

Authority

- Legal and formal framework in which an organisation operates
- Provides a person or organisation with the power to conduct an act or act in a certain manner

Responsibility

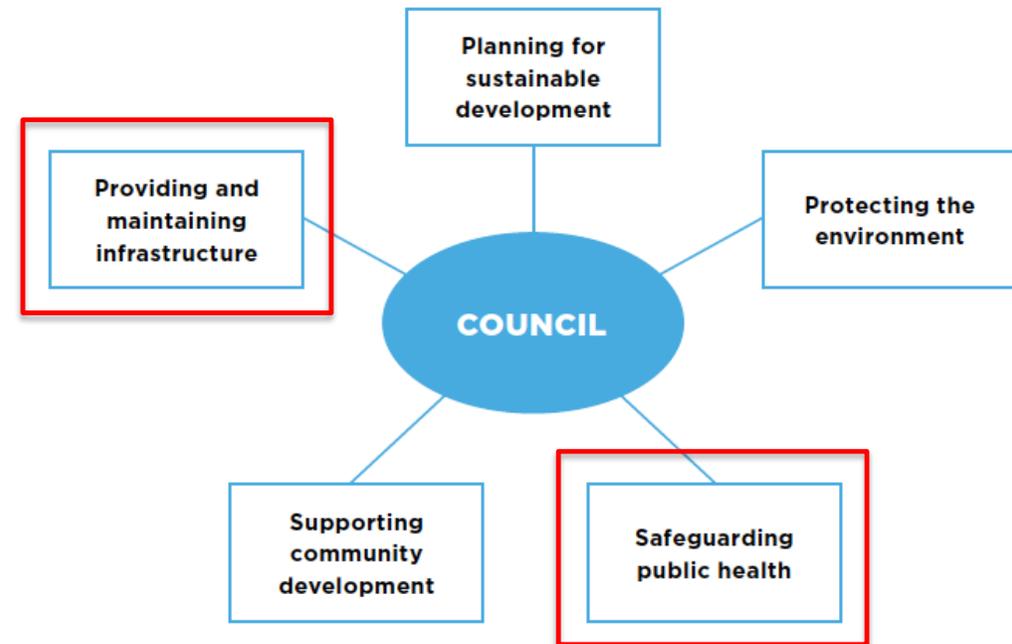
- Expected standard of duty of an individual working on behalf of an organisation
- Compliance requirements of a particular position

Accountability

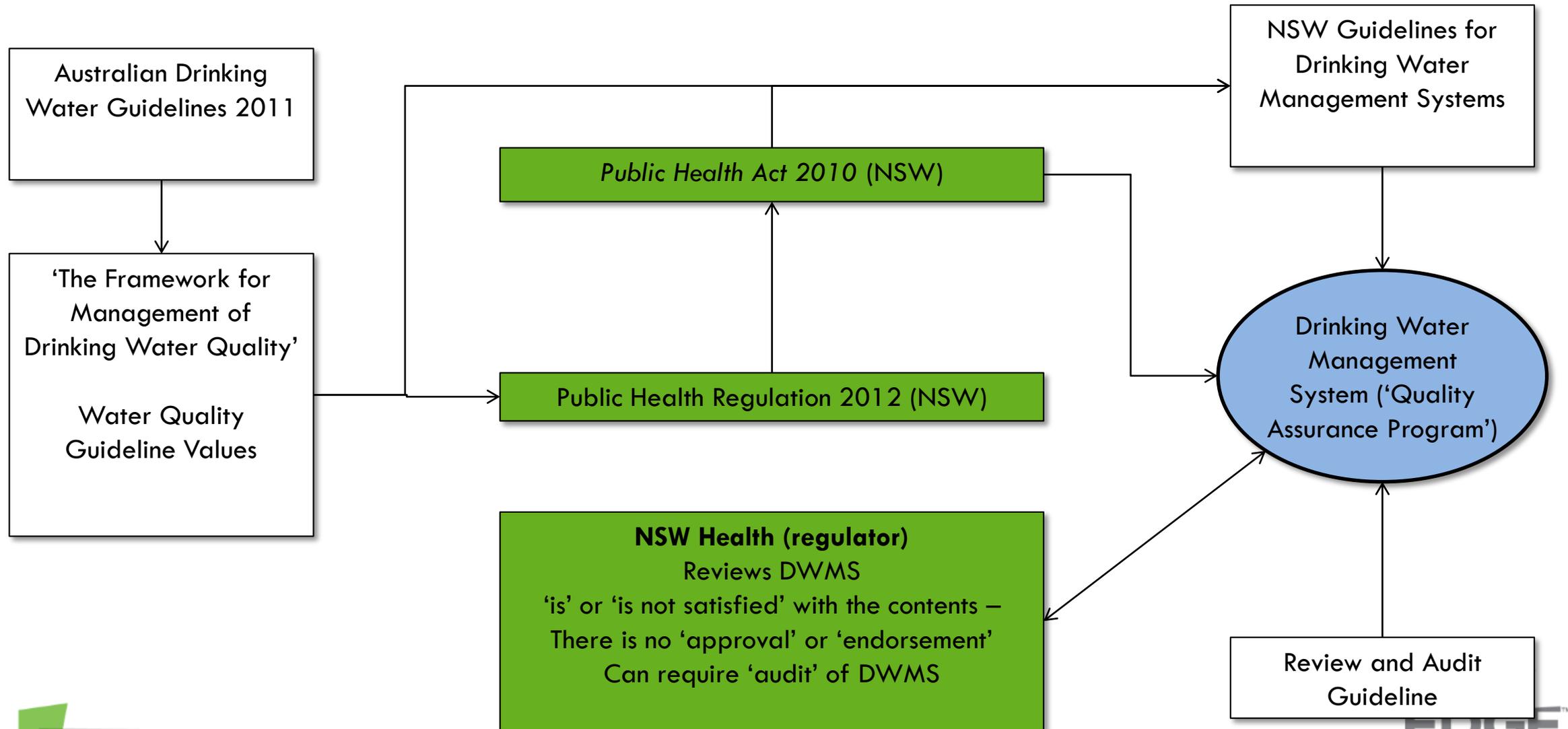
- Judgement against what is in place
- Degree depends on:
 - What you should have known and when
 - What you should have done and when

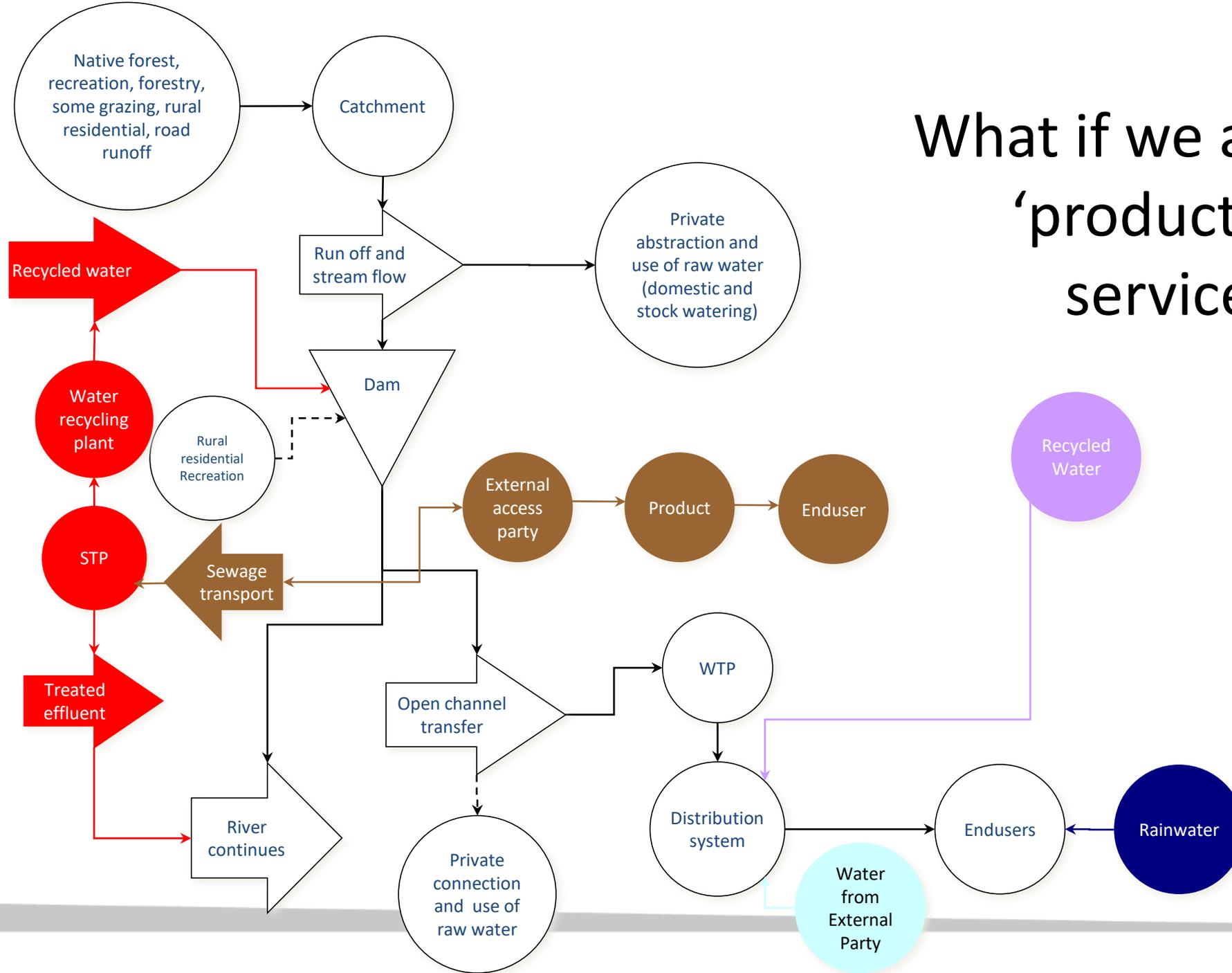
General Council Responsibilities

- Guiding Principles and IPR Principles:
 - Consider the **diverse needs and interests** of the community
 - Undertake **transparent** decision-making and **accountability**
 - Manage lands and **other assets** so that current and future local community needs can be met in an **affordable** way
 - Manage **risks** to the local community or area or to the council effectively and proactively



Drinking Water Operating Context





What if we add more 'products and services'?



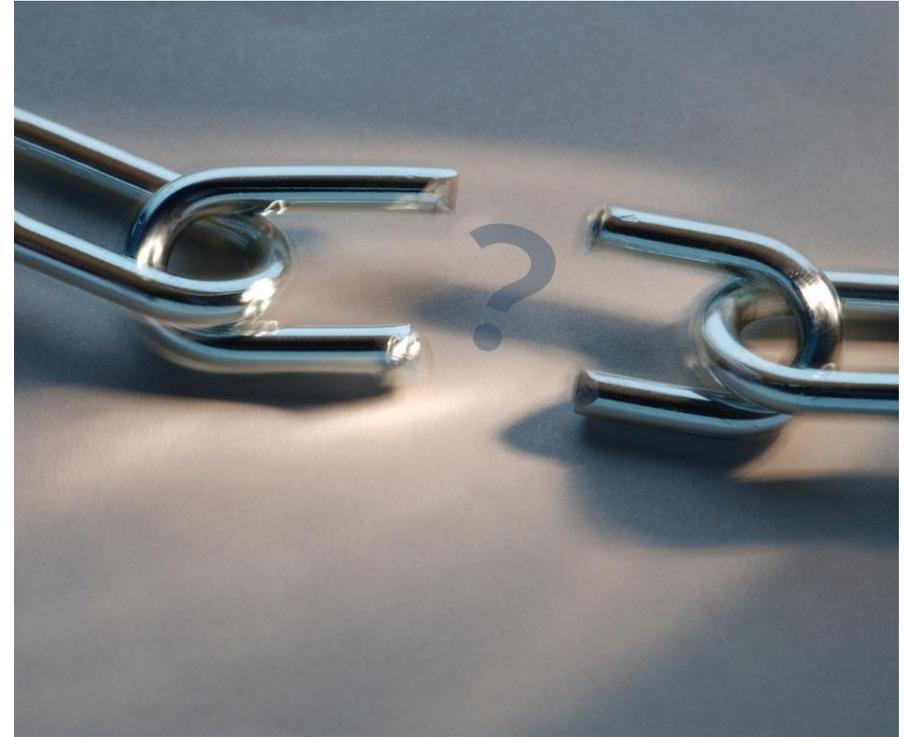
Who are your Supply Chain Parties?

Party	Service/Role
Auditor	Provision of regulatory and operating licence compliance audit services.
Chemical supplier	Provision of treatment chemicals.
Material supplier	Provision of materials used in contact with drinking water.
End user	Receipt of water service/product from the utility.
Consultant	Provision of advice to utility.
Contractor	Provision of contracting services to utility.
Utility executives and directors (including Councillors)	Responsibility for direction and higher oversight.
Utility business units	Responsibility for managing services which support correct operation of the overall enterprise.
Utility managers	Responsibility for system management and operational oversight.
Utility operators	Provision of operation and maintenance services.
Water Resource Manager	Statutory guardian of the water resource.

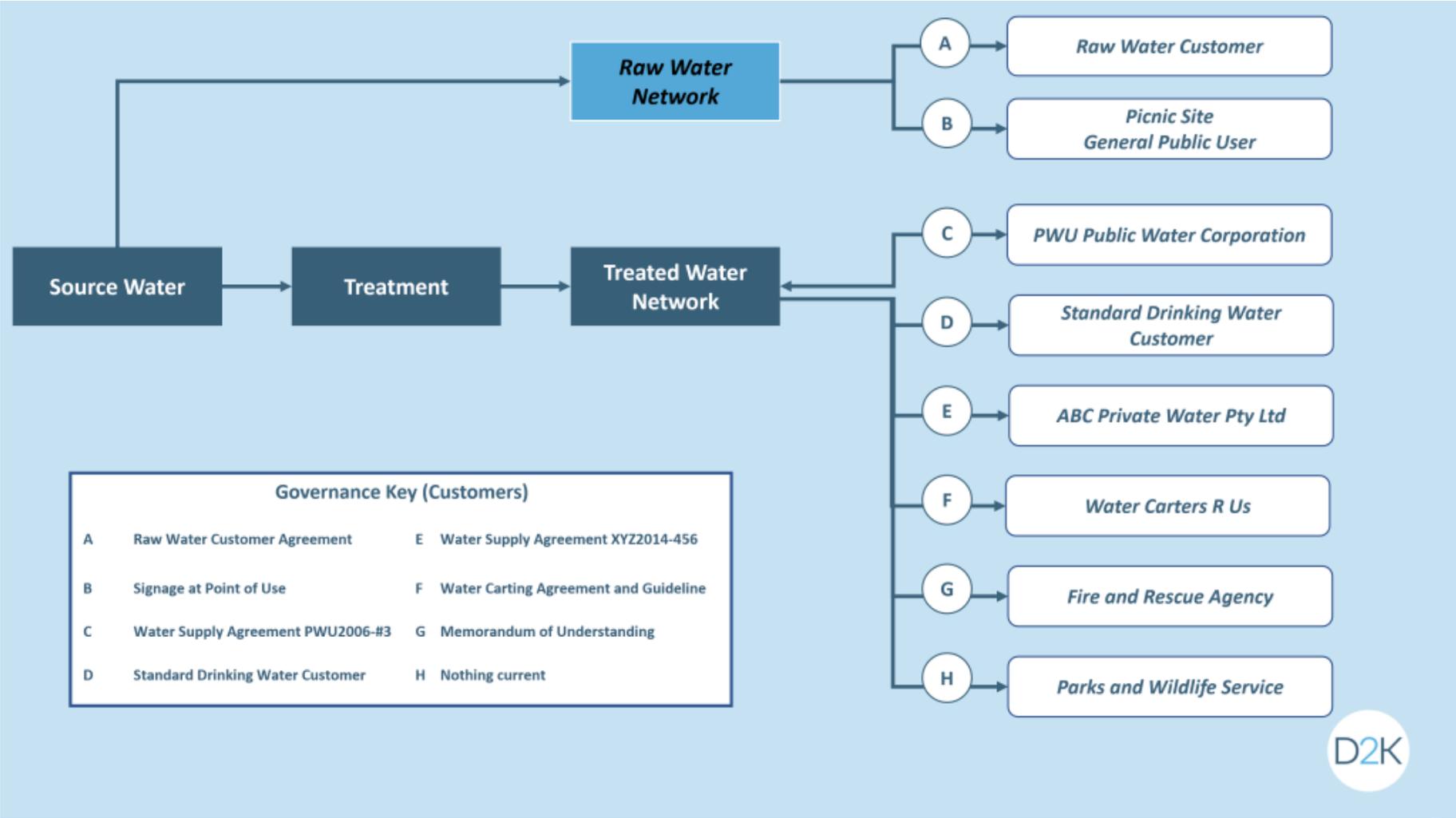


What are your Supply Chain Risks?

Party	Potential Risk Source
Auditor	<ul style="list-style-type: none">• Too 'hands-off' in applying the relevant Drinking-water Compliance Requirements and ensuring utility compliance with its Water Safety Plan.
Chemical supplier	<ul style="list-style-type: none">• Contaminants in the treatment chemicals above Australian Drinking Water Guideline and or utility specification values.• Low or no stock resulting in inability to provide fit for purpose water and/or customer levels of service.
Material supplier	<ul style="list-style-type: none">• Materials leach health-related and/or taste and odour chemicals into drinking water.• Materials are not certified to AS/NZS 4020.• Materials are certified to AS/NZS 4020 but fail in practice.
End user	<ul style="list-style-type: none">• 'Creative' plumbing resulting in potential for cross connection.



The Governagram!



Governance Key (Customers)			
A	Raw Water Customer Agreement	E	Water Supply Agreement XYZ2014-456
B	Signage at Point of Use	F	Water Carting Agreement and Guideline
C	Water Supply Agreement PWU2006-#3	G	Memorandum of Understanding
D	Standard Drinking Water Customer	H	Nothing current

D2K

When you don't get it right.....

FLINT
HAVELOCK NORTH

Flint (USA) in a Nutshell (2014)

- As a cost cutting move, source of Flint's water was changed
- New water was corrosive, leaching out lead from fittings
- Up to 9000 children (a susceptible group to lead poisoning) have been estimated to have been exposed
- Legionnaire's outbreak also due to incident
- Increase in fetal deaths and babies being born at least 150 grams lighter, in those exposed to the alternative river water source



Pieper et al (2017) Flint Water Crisis caused by Interrupted Corrosion Control: Investigating "Ground Zero" Home. Environmental Science and Technology.

<http://pubs.acs.org/doi/ipdf/10.1021/acs.est.6b04034>

How would you feel?



Position	Name	Misdemeanours				Felonies							
		Lying to a Peace Officer	Monitoring Violation, Michigan Safe Drinking Water Act	Treatment Violation, Michigan Safe Drinking Water Act	Willful Neglect of Duty	Conspiracy	Conspiracy to Commit False Pretenses	Conspiracy, Tampering with Evidence	False Pretenses	Involuntary Manslaughter	Misconduct in Office	Obstruction of Justice	Tampering with Evidence
City of Flint Laboratory and Water Quality Supervisor	Michael Glasgow				Yes								Dismissed
City of Flint Director of the Department of Public Works	Howard Croft						Yes		Yes	Yes			
City of Flint Utilities Director for the Department of Public Works	Daugherty Johnson						Yes		Yes				
MDEQ District 8 Water Supervisor	Stephen Busch		Yes	Yes				Yes		Yes	Yes		Yes
MDEQ District 8 Water Engineer	Michael Prysby		Yes	Yes				Yes			Yes		Yes
MDEQ former Chief of Drinking Water and Municipal Assistance	Liane Shekter-Smith				Yes					Yes	Yes		
MDEQ Water Quality Analyst	Adam Rosenthal				Yes			Yes			Yes		Yes
MDEQ Specialist for Community Drinking Water Unit	Patrick Cook				Yes	Yes					Yes		
MDHHS Director	Nick Lyon	Yes								Yes	Yes	Yes	
MDHHS Chief Medical Executive	Eden Wells	Yes										Yes	
MDHHS Director, Program for Maternal, Infant and Early Childhood Home Visiting	Nancy Peeler				Yes	Yes					Yes		
MDHHS Data Manager for the Healthy Homes and Lead Prevention program	Robert Scott				Yes	Yes					Yes		
MDHHS Former Director of the Bureau of Epidemiology and State Epidemiologist	Corinne Miller				Yes (Pleaded no contest)								
Emergency Manager	Darnell Fearnley				Yes		Yes		Yes	Yes	Yes		
Emergency Manager	Gerald Ambrose				Yes		Yes		Yes		Yes		



Havelock North - Context

- August 2016 - Bore water exposure pathway:
 - Contaminated water flowing into a pond from neighbouring paddocks close to the bore.
 - Water flowed to the bore and the bore pump drew the contaminated water through the bore and into the distribution system
 - Contaminated water from nearby paddocks flowed into roadside drains and entered the bore chambers, as seals were loose allowing ingress
- Water was not chlorinated because it was thought to be secure



Outcome

- Over a third of town residents ill with campylobacteriosis
- 45 were hospitalised
- 3 deaths may have occurred
- >\$NZ21 million costs

Campylobacter confirmed in Havelock North water, 4100 affected LATEST CATCH UP ON NOW
By Conor Whitten and Dan Satherley Friday 19 Aug 2016 8:06 a.m.
Matthew Hutching

Thousands affected by Havelock North water contamination NewsTalk ZB
Annette Hilton, Health, Tuesday, 16 August 2016, 5:40AM
Authorities in Hawke's Bay hope a full and thorough investigation will reveal how Havelock North's water supply became seriously contaminated.

Inquiry to be launched into Havelock North's contaminated water stuff
ROSANNA PRICE
Last updated 18:18, August 18 2016
The Prime Minister confirmed an inquiry will be launched into the water contamination issues affecting Havelock North.

Hard-hit Havelock North residents 'want answers' over water contamination oneNEWS
Thu, Aug 18
Havelock North residents are demanding answers after being hit hard by contaminated water, calling for the Government to set up a national disaster fund for the community.

Govt rejects call for Hawke's Bay water emergency declaration RNZ
9:00 am on 19 August 2016
The government is rejecting demands to declare a drinking water emergency after thousands of people contracted gastric illness from a contaminated water supply in Havelock North.

Findings

- Failure to meet source water protection responsibilities under the Resource Management Act
- Knowledge and awareness of the source water and the risks fell below the required standards
- Did not embrace or implement the high standard of care required of a public drinking-water supplier
- Omissions made in assessment of risks to the drinking water supply
- Failure by mid-level managers, who delegated tasks but did not adequately supervise or ensure their implementation resulting in delays to developing and implementing a mandatory Water Safety Plan.



Hastings mayor Lawrence Yule at a public meeting addressing the gastro crisis.

Hawkes Bay Today
By: Kaysha Brownlie



Closing

- Know your water products and services.
- Know your drinking water obligations.
- Understand the hazards and risks to drinking water supply.
- Ask for information on 'operation' of the water supply (CCP reports).
- Understand your regulator's requirements.
- Commit appropriate resources to protecting your community's water supply public health outcomes.



Stan Koebel, left, arrives with his brother, Frank, for a court appearance in Walkerton on June 10, 2003. (Kevin Frayer/Canadian Press)

*"The offenders are not being sentenced as the cause of the Walkerton water tragedy. They are being sentenced for **their failure to discharge their public duty** and thereby endangering the lives, safety, or health of the public."
(O'Connor, 2002)*

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Advocates



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