Road Controlling Authorities Forum (New Zealand) Incorporated

with assistance from

New Zealand Water and Wastes Association

presents

Managing Stormwater and Road Run-off Tools, Techniques and Devices

New Zealand Water & Wastes Association
Waiora Aotearoa


NO
PARKING
WHEN ROAD
IS SNOW
COVERED
TOW-AWAY
ZONE

New Zealand Government

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RCA Stormwater Forum
Transit's Stormwater Management Programme

March 2008

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Strategic direction from:

Land Transport Management Act 2003

"…must exhibit a sense of social and environmental responsibility…" s77(1)

National State Highway Strategy 2007

"…develop criteria related to the sensitivity of different environments…" goal 1

Environmental Plan 2004

"…treat identified sites based on a prioritisation approach." p 16

Updated NZ Transport Strategy 2007

"…develop stormwater guidelines by 2009." p51

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PURPOSE of Stormwater Management Programme

national consistency
certainty & reliability
value for money
evidence based decision making

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Overview of Transit's Stormwater Management Programme

retrofit significant discharges to sensitive receiving environment (SRE)

proactive prioritisation by GIS mapping of VKT and SREs

treat stormwater on new projects whenever necessary

work with LandCare to develop a whole life cycle assessment for stormwater treatment devices

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Overview of Transit's Stormwater Management Programme (continued)

collaborate with regional authorities to improve ecosystem data related to project discharges

design, improve and maintain fish passages

work with local government on catchment management

develop national standard for stormwater management

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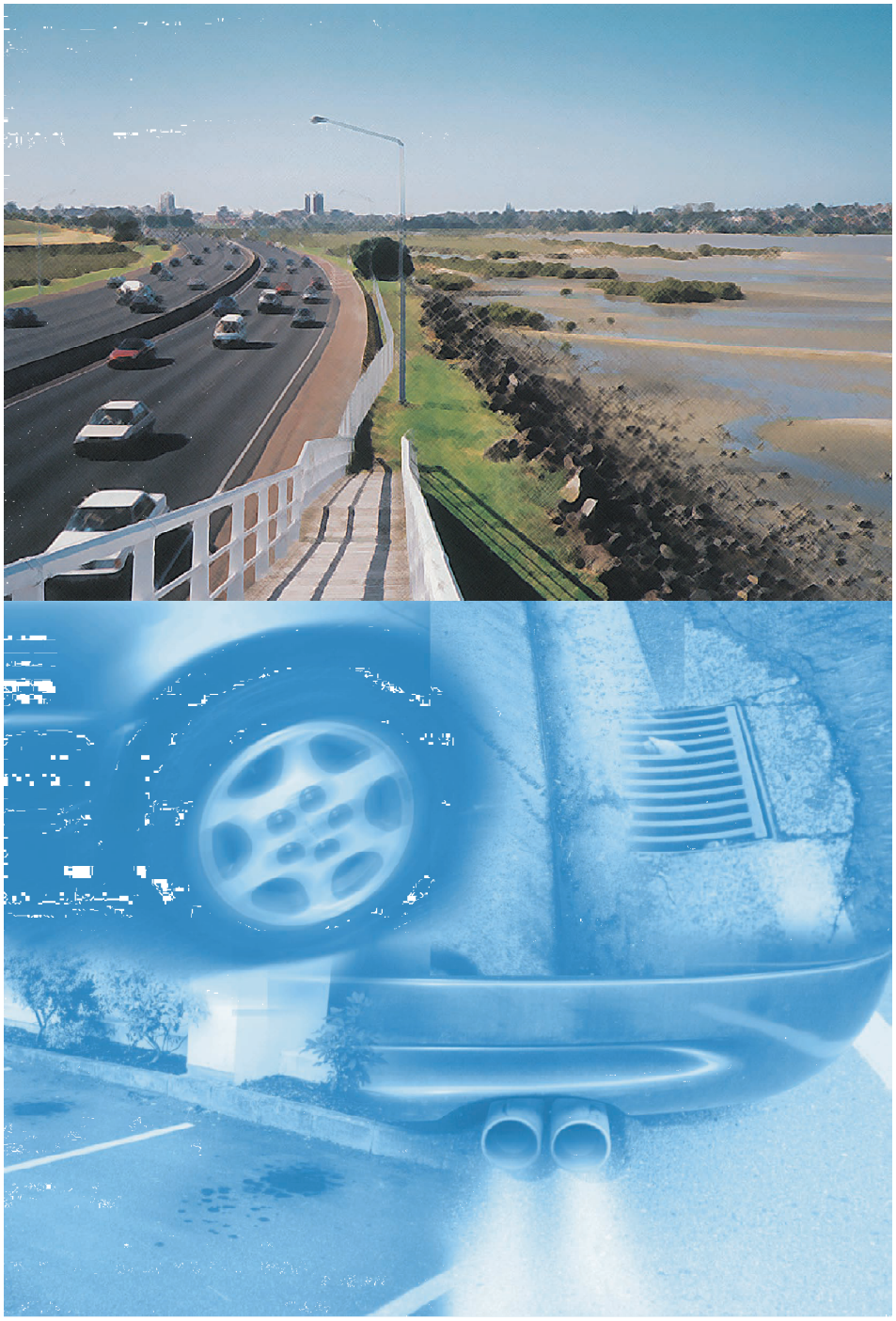
how we got here
where we are
road forward

Road Transport Impacts on Aquatic Ecosystems: Issues and Context for Policy Development

(Ministry of Transport 2002)

"Road run-off was considered to account for 40-50% of urban metal contamination to aquatic ecosystems."



how we got here
where we are
road forward

Ministry for the Environment considered a National Environmental Standard for Stormwater Run-off from State Highways in 2007.

conclusion: Transit's ongoing work demonstrated responsibility toward managing stormwater run off impacts

recommendation to cabinet: no need for NES

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how we got here
where we are
road forward

Review and analysis of:

regional plan rules
consent conditions

Findings:

inconsistency
vague conditions
difficult to determine compliance

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how we got here
where we are
road forward

Development of nationwide

Transit Standard for Stormwater Management on State Highways

(final draft June 2009)

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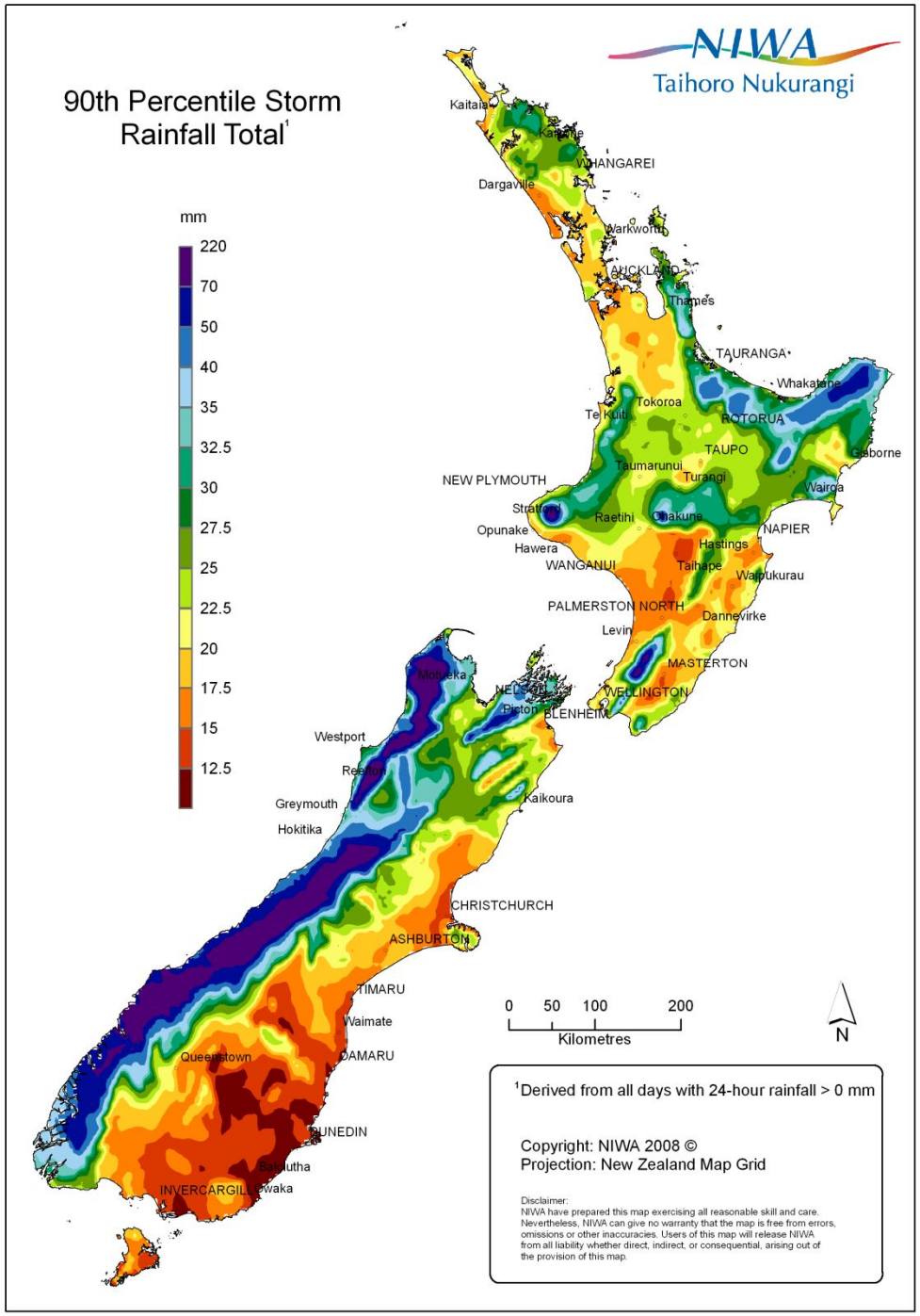

how we got here
where we are
road forward

Objectives of Standard

- improve certainty and reliability
- find value for money and affordability
- use evidence based decision making

certainty & reliability

design philosophy

current situation: based on individual consultant's experience and consenting officer discretion

future: low impact design with whole life cycle assessment

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value for money and affordability

standard of treatment required is the key driver for cost

current situation: no water quality standards
thus no standard of treatment specifications
future: consistent standard based on source-pathway-receptor model and best practicable option

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evidence based decision making

Do vehicle derived contaminates accumulate in sensitive receiving environments in sufficient concentrations to have an adverse effect?

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evidence based decision making

Based on New Zealand data the relative amount of vehicle derived contamination can be differentiated from other sources by using a fingerprinting technique developed from the Grafton gully storm water tank.

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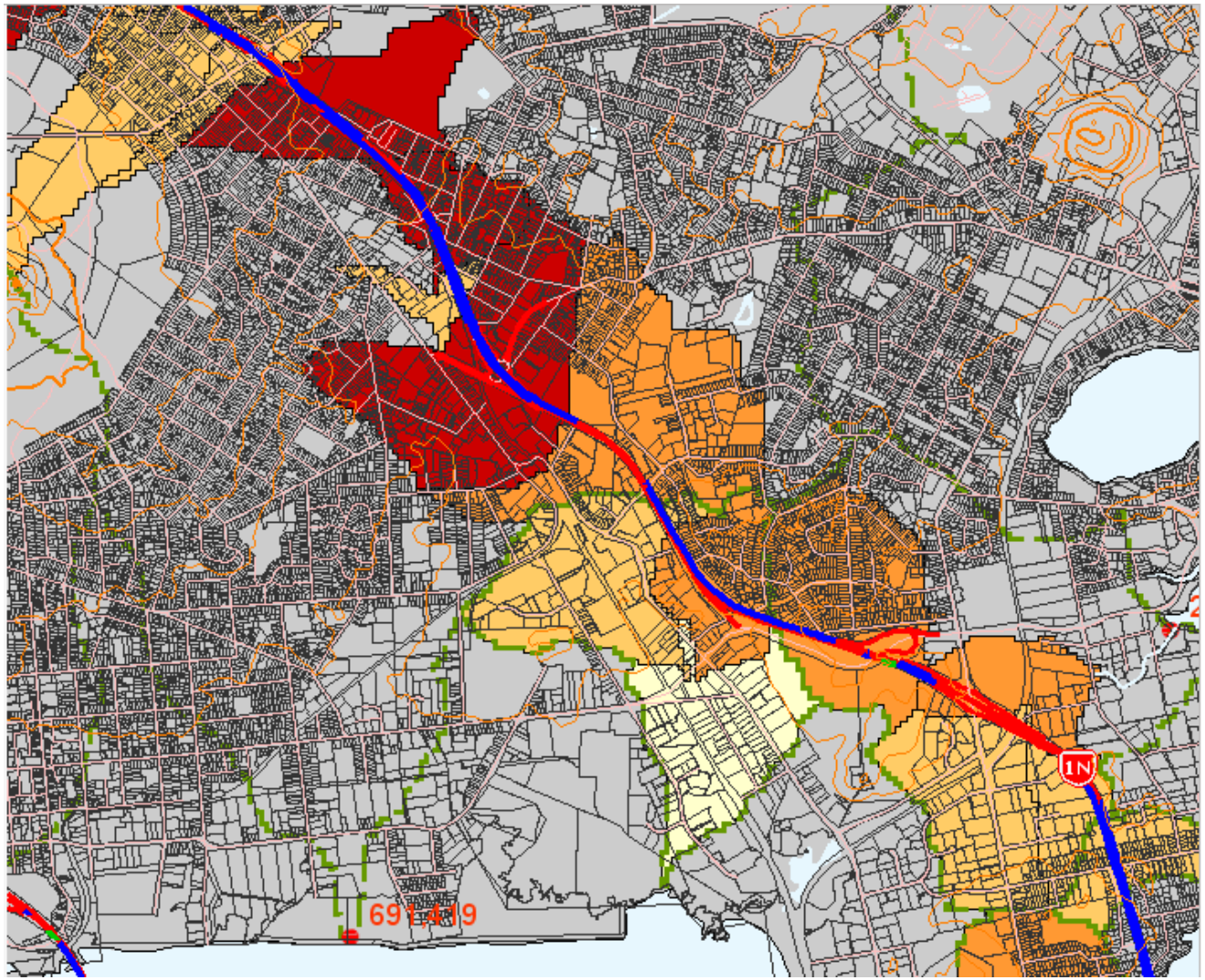
evidence based decision making

Ecological assessment

PURPOSE: Validate expected vehicle-derived contaminate load vs actual using 5 highest VKT state highway segments draining into a sensitive receiving environment

SH	VKT	Near
1	444,885	Shore Rd
16	478,806	Meola Rd
1	691,419	Captain Springs Rd
18	427,273	Vinewood Dr
20	481,231	Price Rd

SH 1 near Captain Springs Rd
691,419 annualised average daily traffic vehicle kilometres travelled



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Aerial view

2.2.3 Onehunga

Fig. 3a. Aerial view of Onehunga sampling site. Red arrow indicates the position of the stormwater pipe. *Photo from* http://www.googleearth.com .

Sampling

Fig. 3b. Photo of Onehunga sampling site showing mouth of pipe and the receiving environment of the Manukau Harbour. Numbers show position of each of the 10 samples collected. *Photo J. Reed.*

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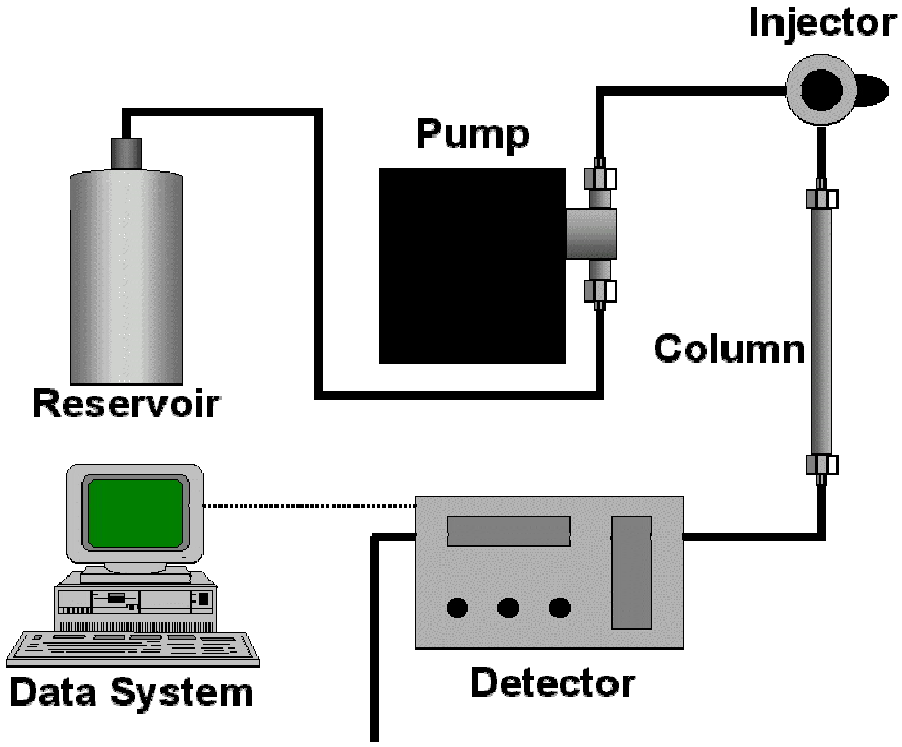
Results

currently being analysed

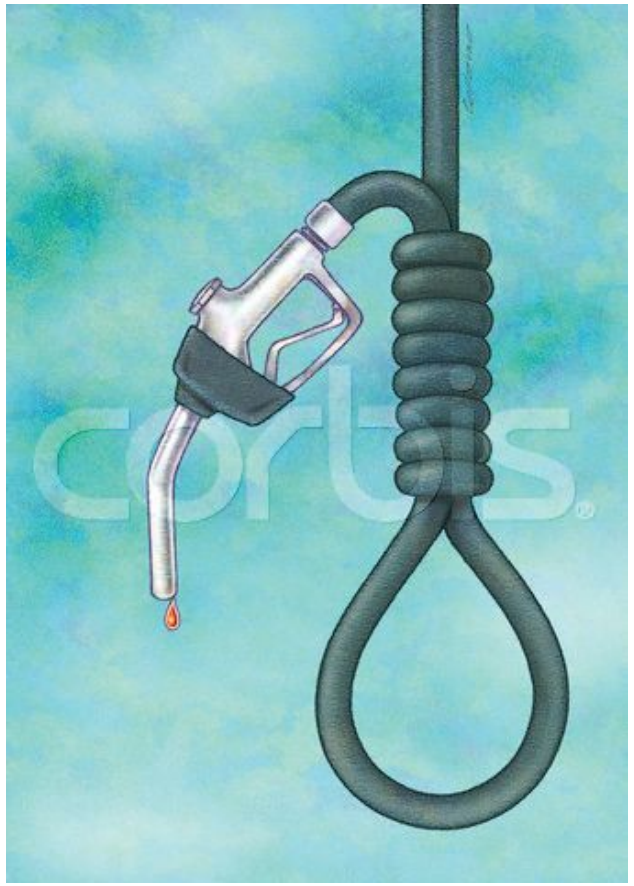
data and report in a few months



Sustainable Transportation

stormwater management is one of several sustainable transportation projects being conducted by Transit

carbon foot printing of construction & maintenance operations
consents and designations management system
nation wide vehicle pollution monitoring
standard for air quality assessment
spill response and contamination
recycled materials in pavement
noise improvement programme
consultation guidelines



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