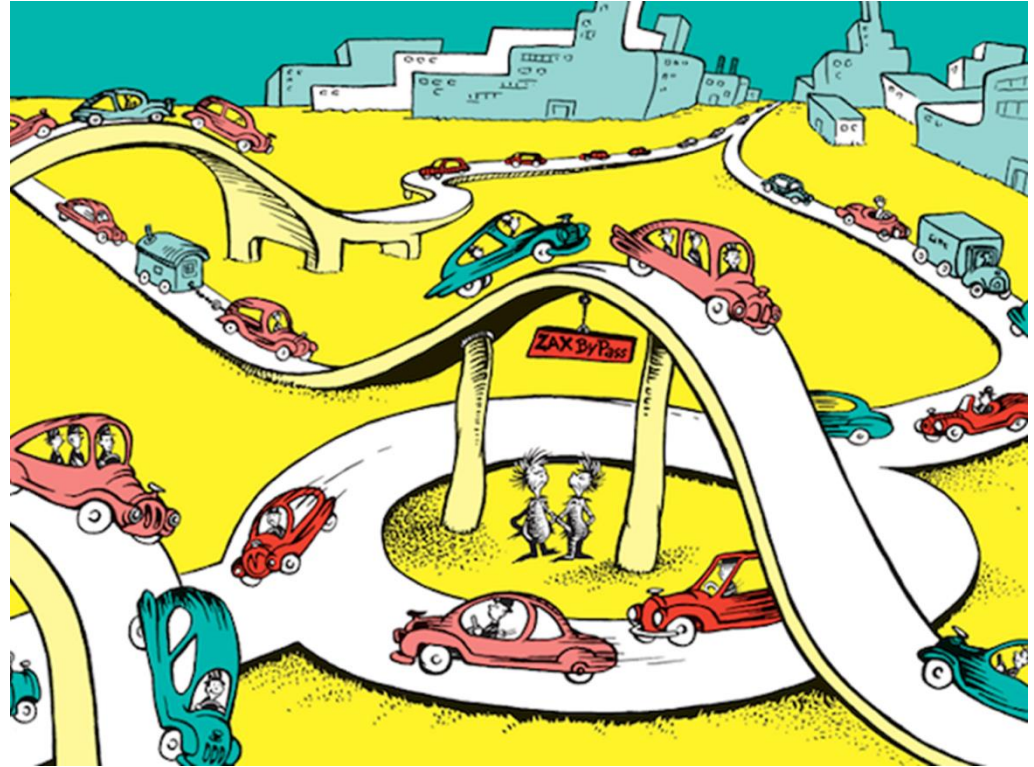


The Long and Winding Road to Better Ecological Outcomes



Overview

- Background
- Key challenge
- What we are doing
- Where we are heading



Background



Environmental Responsibility in the New Zealand Transport Agency

- Around 2002 – Research assessing how the Transport Agency was doing in addressing environmental aspects for large projects.
- Resulted in appointment of the Transport Agency's first environmental manager.
- Environmental policy and Environmental Plan developed - structure to address environmental issues.

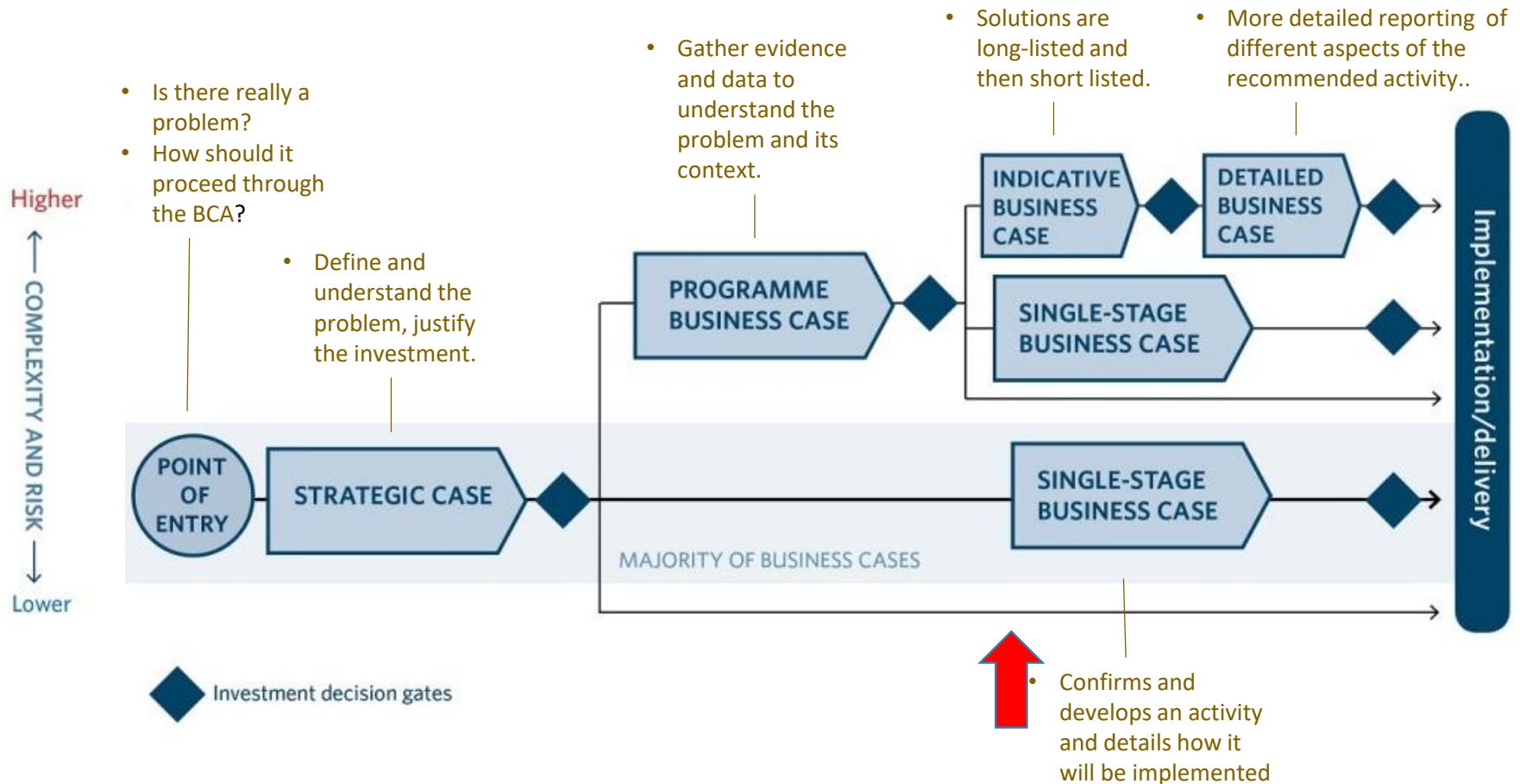
State highway environmental plan: improving environmental sustainability and public health in New Zealand

Our environmental plan sets out our strategic, environmental and social vision to enable us to set specifications and standards for our contractors undertaking road works. The plan is also available to help and guide other land transport operators.
Published: June 2008



Business Case Approach

BUSINESS CASE APPROACH PHASES AND POSSIBLE DEVELOPMENT PATHS



Key Challenge

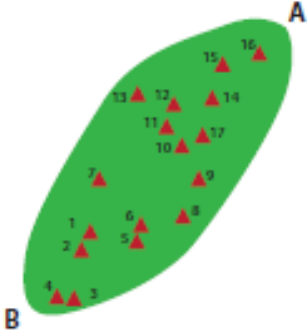
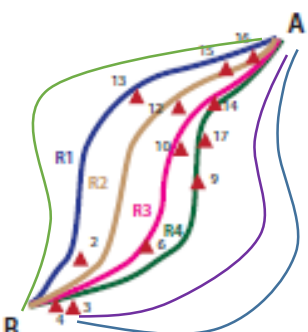
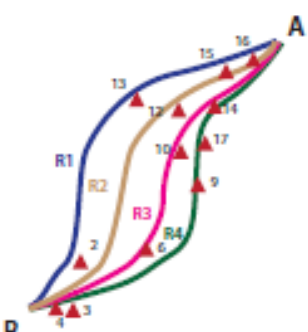
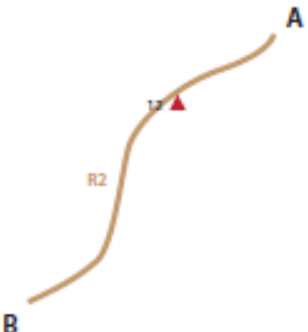


Good Information Early On Means...

- Greater opportunity to influence.
- Greater chance to avoid while the project is flexible enough to allow for changes.
- Mitigation measures can be factored into project design.
- A greater chance of getting the scope right for further work—what will be affected, what will need specialist input, what needs specialist survey and monitoring.



Good information early on would be lovely

Options assessment and Constraints study (long list)	Options assessment and Constraints study (short list)	Options assessment and Constraints study (short list)	Project design (preferred option)
Programme business case	Indicative business case	Detailed business case	Implementation/ delivery
			
Multi Criteria Analysis (MCA) - Environmental and Social Responsibility Screen	Environmental and Social Responsibility Screen	Preliminary technical assessments (ecology)	Ecological impact assessment to support Assessment of Environmental Effects and Consenting

Less	Ecological information	More
More	Route options on the table	Less
Most	Flexibility – route alignment, construction methodologies, large mitigation	Least

Adapted from NRA, 2009

Fit-for-purpose



Environmental and Social Responsibility Screen (ESR Screen)

- High level tool to identify environmental and social risks.
- The ESR screen is completed for all state highway improvement projects
- Multi-criteria Analysis (for options assessments)
- Is the first steps in the ecological impact assessment process.
- Five questions pertaining to the natural environment
- The project team is to fill out

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY SCREEN V2.FEBRUARY 2016 

Use this screen to identify opportunities and risks and assess options for state highway projects. Complete the screen for each option to distinguish them from one another or handle options where appropriate. Screen results will signal where technical assessments are required and provide a written record to support the alternatives assessment required for selection applications. For further assistance contact the ESR Unit. Additional instructions and content, including information sources, to help complete the screen can be found on the [Information Portal Screen pages here](#).

Decision Matrix (See screen) → Answer screen questions using project information and supported information sources → Refer to screen questions, especially particularly 1 → Complete page 2 of screen → Incorporate page 2 into the assessment of options table (Background and MCA)

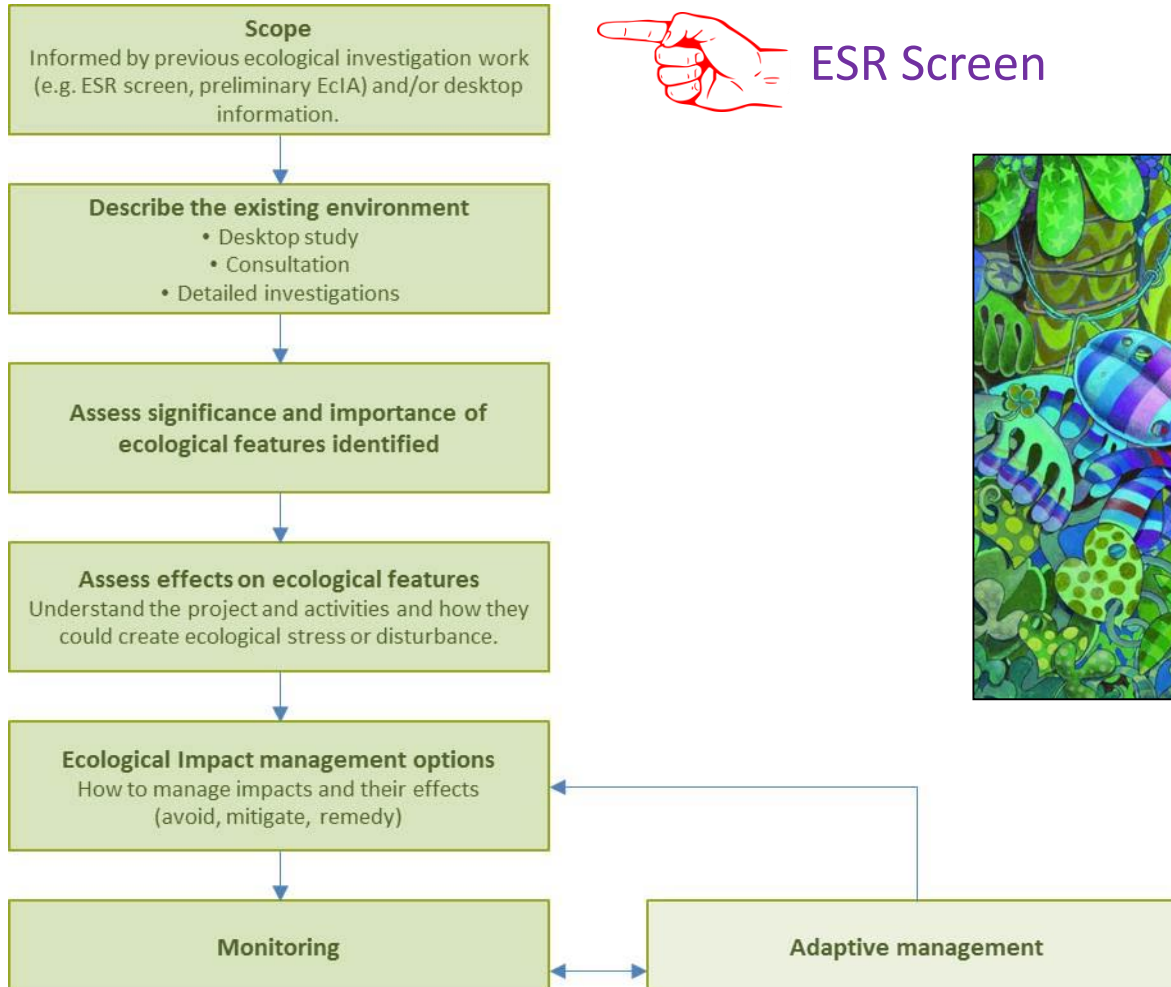
PROJECT LOCATION: _____ PROJECT PURPOSE: _____ DATE: _____ OPTION DESCRIPTION: _____

CATEGORY	QUESTION	ANSWER				LIFELINE INFORMATION SOURCES
GENERAL	G1 What is the zoning of adjacent land? Are there any restrictions on the land? (e.g. Māori Reserves or other reserves/consents)	Residential	Commercial	Industrial	Residential	District/Regional Plan Zoning Maps
	G2 Does the option disturb previously undeveloped land?	Y	N	High density residential	Park/Open space	
NATURAL ENVIRONMENT	N1 What is the construction timeframe?	<18 months	>18 months	Y	N	NZTA Māwhiri Environmental and Social Risk Māori Cultural and Heritage
	N2 Are there any outstanding/adjacent natural features (e.g. protected or threatened) on the site?	Y	N	Y	N	Regional Plan Maps and Schedules
	N3 Will the option affect the coastal marine area, wetlands, lakes, rivers, streams or their margins?	Y	N	Y	N	District Plan Maps and Schedules
	N4 Will the option affect areas of the conservation estate, or areas of trees significant for biodiversity or trees habitats of conservation or threatened species?	Y	N	Y	N	Department of Conservation
	N5 Is the option in an area of potential hazard (e.g. fault lines, significant erosion, flooding, sea level rise etc)?	Y	N	Y	N	
CULTURAL AND HISTORIC HERITAGE	CH1 Will more than 0.5 hectares of vegetation be removed? What type?	Y	N	Y	N	
	CH2 Are there sites/areas of significance to Māori within 200m of the area of interest?	Y	N	Y	N	NZTA Māwhiri Environmental and Social Risk Māori Cultural and Heritage
	CH3 Are any recorded, scheduled or listed archaeological sites within 200m of the area of interest?	Y	N	Y	N	Heritage New Zealand Ltd
	CH4 Are any scheduled, listed or other important heritage buildings/ structures within 200m of the area of interest?	Y	N	Y	N	NZ Archaeological Association
	CH5 Will the option affect the setting of any historic building/structure or archaeological site?	Y	N	Y	N	District Plan Maps and Schedules
HUMAN HEALTH	HH1 Is a group of archaeological sites or an area of historic built environment (even partially) within 200m of the area of interest?	Y	N	Y	N	POPC Heritage Ltd
	HH2 What is the One Network Road Classification?	Primary	Secondary	Y	N	NZTA GIS predictive models
	HH3 Is the area of interest designated as a non-compld site?	Y	N	Y	N	NZTA Māwhiri Environmental and Social Risk Māori Cultural and Heritage
	HH4 Are there medical sites, and schools, childcare, care sites, residential properties, hospitals or other sensitive facilities located within 200m of the area of interest?	Y	N	Y	N	Regionally sensitive residents
	HH5 Does land use within 200m of the area of interest include industrial plants, chemical manufacturing or storage, petrol stations, vehicle maintenance, (other processing/ treatment), substations, and yards/ facilities and/or other activities that may need to ground contamination?	Y	N	Y	N	Regional Council Contaminated sites Team
SOCIAL	S1 Does the option affect access to community facilities (e.g. libraries, sport space etc) either temporarily or permanently?	Y	N	Y	N	NZTA Māwhiri Project Team
	S2 Does the option affect community cohesion and accessibility including equitable connectivity to the local road network?	Y	N	Y	N	District Plan Maps Council and Community Strategy
URBAN AND LANDSCAPE DESIGN	ULD1 Are there opportunities to enhance infrastructure for, and/or improve access to, public transport and/or active modes of travel such as walking and cycling?	Y	N	Y	N	NZTA Māwhiri Environmental and Social Risk Māori Cultural and Heritage
	ULD2 Does the option enhance the development potential of adjacent land where appropriate?	Y	N	Y	N	Regional Land Transport Plan
	ULD3 Is the option located on a Bypassed Highway? Is the option part of or near a national cycle or walking route?	Y	N	Y	N	Strategies and District Plan
	ULD4 Are there opportunities to enhance the urban character, landscape character and visual amenity?	Y	N	Y	N	

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Ecological Impact Assessment

 ESR Screen



For good knowledge we are relying on:

- Readily available information
- Knowledge of our ecologists
- Experience from previous projects



Readily available information - desktop

- No one national database
- Paucity in data available
- Some things are favoured over others.
- Not capturing all sources, including from NZTA surveys



Good local knowledge - stakeholders

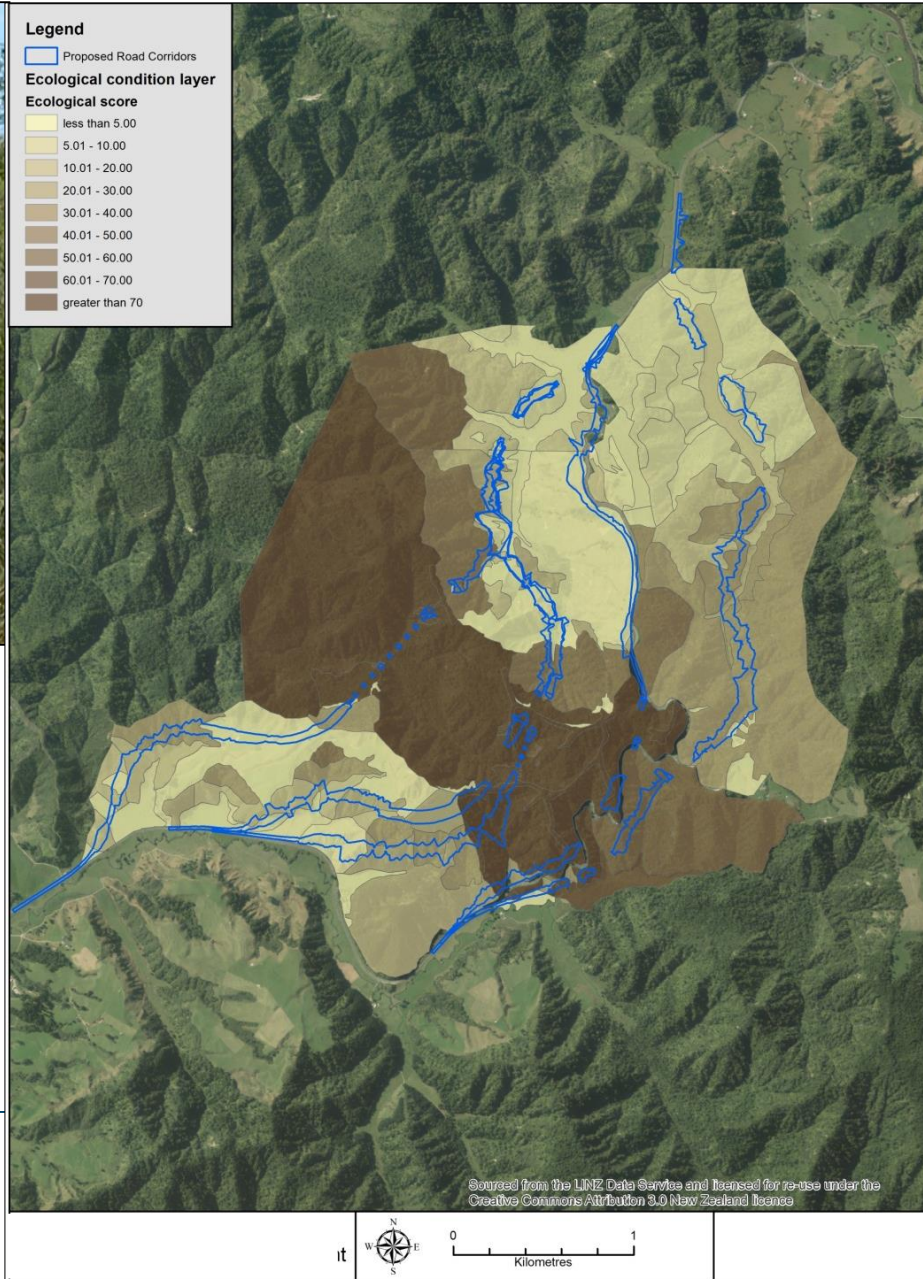


Site visits



- Early stages tend to be limited site visits – generally a walkover survey with more detailed surveys being undertaken as the options assessment proceeds and there is a short list of options left.
- Data gathering – limitations due to seasonal behaviour of some fauna (e.g. bats, reptiles).

Knowledge of Ecologists

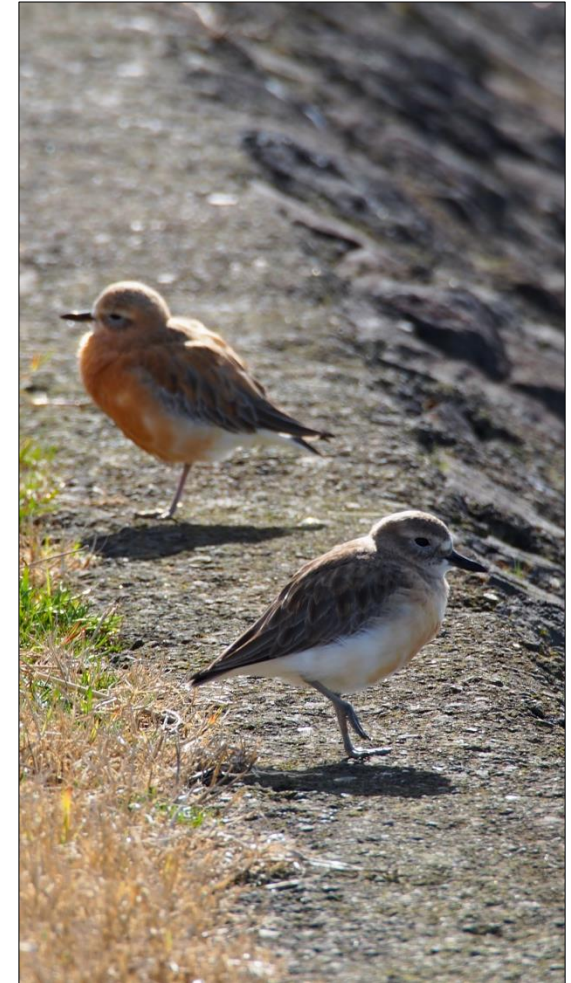


Experience from Previous Projects

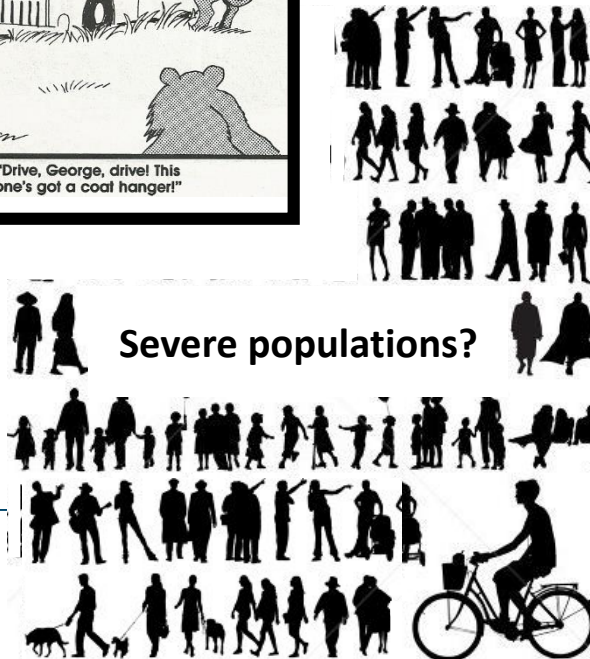
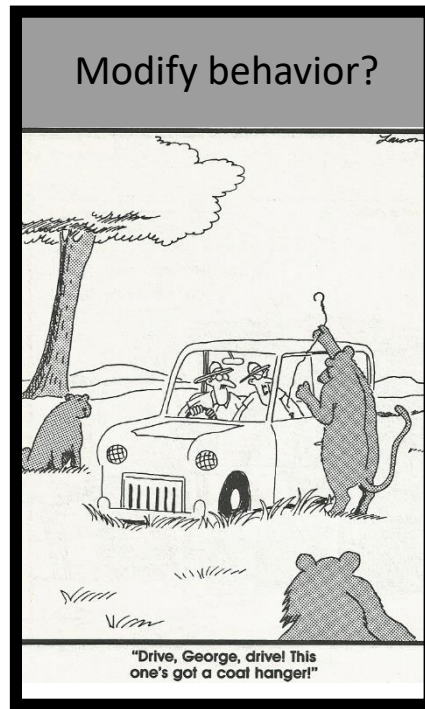
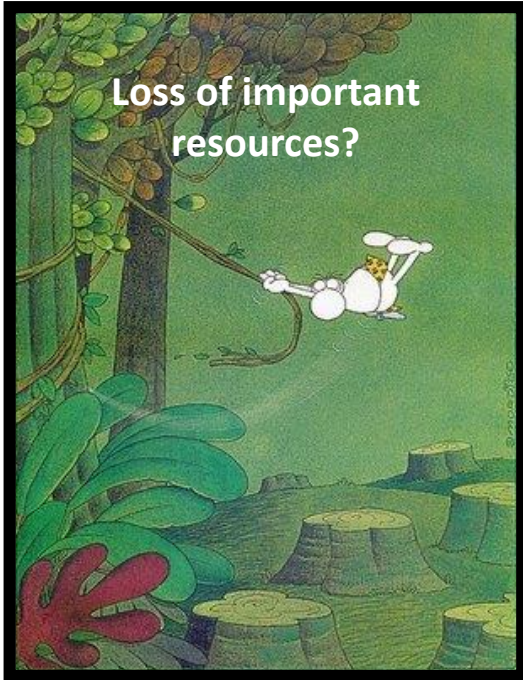


E.g. NZ Dotterel Deterrents

Method	Description	Suitable For:	Success	Comments
Dog	Walk a dog on a leash and disturb adult dotterels.	All sites.	Success	Walk dog throughout the day for a number of days.
False hawk	Use a 'false hawk' to circle the area.	Where it won't interfere with traffic or overhead lines.	Unsuccessful	It worked for a short time and then the birds got used to it.
Long grass	Allow grass to grow long so not considered by dotterels to be a good place to lay eggs.	Sites that will be worked at some point during breeding season that have existing grass.	Success	Grass has to be long. It should be left to grow from at least April before the earth works season.
Machinery	Park large machinery close to where dotterels are showing an interest. Start the engine from time to time.	Construction sites with large machinery.	Moderate	Machinery cannot be left for long periods or the birds may get used to it.
Silt fences	Erect shade cloth at knee height. Place in rows. Space at 5– 10 m.	All sites.	Success	They block the birds' view Hay bales could potentially be used.
Metallic tape	Tape/ streamers that flutter when there is wind.	All sites	Moderate	It worked for 3 weeks then the birds got used to it.



How will the road affect what is there?



Research into effects of roads on bats – bat framework

- Developed to guide land transport managers, planners and ecologists through the process of:
 - Getting statutory consents
 - Ecological monitoring
 - Mitigation of the effects of roading projects



Ecological Impact Assessment Guidelines



- Going through review process at the moment.
- Ecological input at level appropriate to project complexity.
- Early awareness of important ecological features.
- Fit for purpose assessments.
- Early engagement with stakeholders.
- Right level of competency

Relationships

- Project teams working strongly with stakeholder early on.
- Stakeholder technical experts and Project technical experts in direct contact with each other through project development.
- Participating in MCA workshop
- Regular meetings
- Site visits through preferred option and alternative.



Where we are heading



2002 – Research on how well NZTA was doing with environmental issues

2003 – First environmental manager

2002 , 2012 – how to measure biodiversity values on road verge

2008– Environmental Plan

2013 – Fish passage guidelines

2011– Environmental and Social Responsibility Policy

2014 – MOU between Department of Conservation and NZTA

2015 – Z19 Environmental and Social Responsibility Standard

2015 – Z19 Environmental and social responsibility screen

2015/16 – Understanding the value of meeting the requirements of environmental legislation

2015 – P47 Specification for environmental, social and cultural management during construction

2017 – Effects of land transport activities on bats

2018/19 – Ecological impact assessment for state highways

2019? – Specification for environmental impact assessment?

What's on the Cards

- Stocktake of previous projects experiences (e.g. impacts, mitigation, offset applied).
- Review early ecological risk assessment.
- Ecological and social responsibility screen refresher.
- Develop tools to capture and store ecology data from new projects.
- Conversations around competency.
- Environmental impact assessment specification

Questions

