



# Ruamahanga Whaitua New Process & Partnerships

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# Outline



- Introducing Team Ag
- Wairarapa water – quality, quantity
- New process, partnerships, shared values
- Primary production values, sector presentations
- Going forward

# Team Ag



Wairarapa Water Users



# Team Ag - Focus



- **What**
  - representing farmers , farming organisations across region
- **Who**
  - introducing the team...
- **Why**
  - share resources , consistent outcomes, single point of contact

# Understanding water quality

Source: GWRC SOE reports



- Purpose: understanding our own water quality
- Information gathered for farmer catchment meetings
  - now sharing our understanding with Whaitua
- Presentation of GWRC data for easy understanding
  - format GWRC numbers into bands (excellent to poor)
  - benchmark against bands (and neighbours)
  - highlight “hotspots”

# What is our water quality?

## - regional overview



### **Groundwater Quality – State and Trends, 2005-2010**

generally very good

### **River and Stream Water Quality – State and Trends, 2004-2011**

reasonably good, and relatively stable

### **Lake Water Quality – State and Trends, 2005-2010**

stable but under NOF bottomline for P

Source: GWRC SOE reports 2012

# Secondary Contact Recreation

Source: SOE report 2008-2011; Pahaoa 2011-2012



E. Coli NOF Bands Medians	Ruamahanga Mainstem	Western Tribs	Valley Streams	Eastern Tribs
< 260	McLays 5 Te Ore Ore 100 Gladstone 82 Pukio 160	Beef Creek/head 4 Tauherenik/Websters 20 Waingawa/South Rd 22 Waipoua/Colombo 41 Waiohine/Bicknells 68 Mangatarere /SH2 120	Parkvale/lowes 26	Huangarua/Ponatahi 4 Mataikona/Sugarloaf 41 Pahaoa/Glendhu 56 Whareama/gauge 95 Awhea/Tora 95 Taueru/Castlehill 100 Taueru/Gladstone 105
< 540				Kopuaranga/Stuarts 315 Whangaehu/confl 375
< 1000			Parkvale/Weir 570	
➤ 1000				

# Swimming

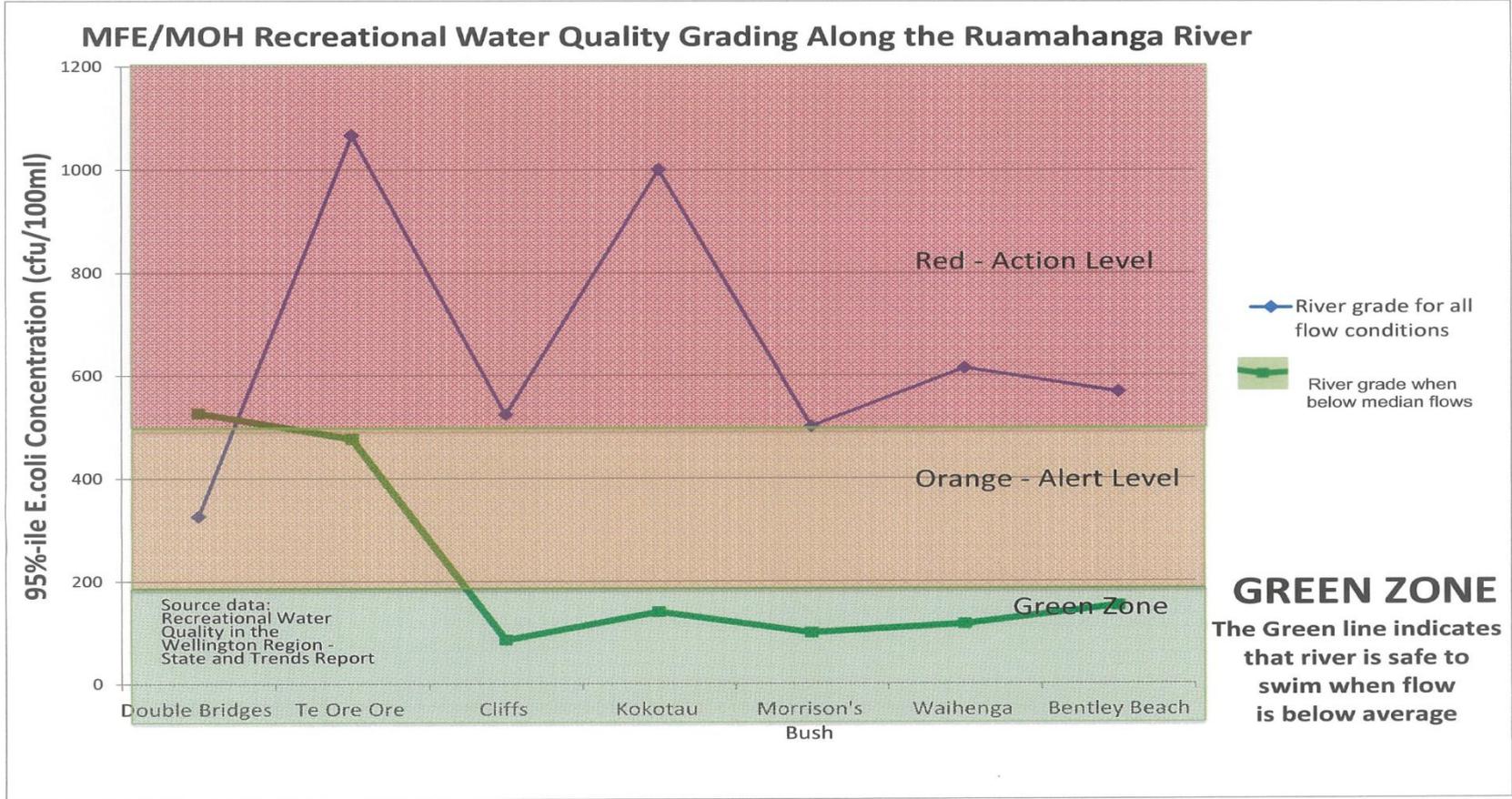
Source: GWRC data 2014



NOF Bands 95 <sup>th</sup> %	Dry Flows (< median flow)	All Flows (> median flow)
A Band	Ruamahanga/ all sites Waipoua/Colombo Waingawa/Kaituna, South Rd Waiohine/Gorge, SH2 Tauherenikau/Websters	Ruamahanga/Double Bridges Waingawa/Kaituna Waiohine/Gorge, SH2
B Band		Waingawa/ South Rd Tauherenikau/Websters
Below minimum acceptable	(Hutt River) (Wainuiomata River)	Waipoua/Colombo Ruamahanga/Te Ore Ore, Cliffs, Kokotau, Morrisons Bush, Waihenga

# Ruamahanga Swimming

Source: GWRC





# Groundwater Nitrate - Drinking Water Standard

Source: SOE report 2005-2010

SOE Bores x 48 GWRC Bands	Masterton x 10	Carterton x 13	S Wairarapa x 25	Number %
Minimal Impact <3mg/L	7	8	21	37 (75%)
Elevated 3-7mg/L	1	4	3	8 (16%)
Highly Elevated 7-11.3mg/L	Te Ore Ore 9m 10mg 54m 11mg	Taratahi 10m 9mg	Mart Golf Course 32m 9mg	4 (8%)
Fail Drinking >11.3mg/L	0	0	0	

# River Nitrate

Source: GW analysis 2008-2013



Nitrate NOF Bands Med/95%	Ruamahanga Mainstem	Western Tributaries	Valley Streams	Eastern
A m e F a i l o o n	McLays 0.02/0.04 Te Ore Ore 0.3/0.8 Gladstone 0.3/0.8 Pukio 0.3/0.8	Tauherenikau 0.02/0.1 Waingawa 0.05/0.2 Waiohine/top 0.02/0.05 Waiohine/bott 0.3/0.9		Whareama 0.00/0.3 Mataikona 0.01/0.2 Huangarua 0.2/0.6 Awhea 0.06/0.3 Taueru/top 0.09/0.4 Kopuaranga 0.9/1.2
B W W U P		Enaki 0.7/1.8 Mangatarere 1.1/2.0 Waipoua 0.7/1.9	Pvale/weir 1.1/3.5	Taueru/bott 0.6/1.6 Whangaehu 0.8/1.9
C A G			Pvale/lowe 4.4/6.7	
D m e				



# Macro-Invertebrates

Source: SOE report 2009-2011; one-off reports (Pahaoa, urban)



MCI National Guidelines	Ruamahanga Mainstem	Western Tribs	Valley Streams	Eastern
> 120	McLays 146	Waiohine/gorge 139 Beef Creek 133 Wairongomai 125	.	Mataikona 130
> 100	Te Ore Ore 110 Gladstone 103 Pukio 102	Tauherenikau 118 Waiohine/Bicknells 116 Waingawa 113 Waipoua 104	Parkvale/Lowes 101	Taueru/top 110
> 80		Mangatarere /SH2 97	Makoura 80-90	Awhea 97 Huangarua 95 Pahaoa 92 Kopuaranga 95 Taueru/bott 89 Whareama 80
< 80			Parkvale/Weir 76 Papawai 75-78	Whangaehu/bott 77

# Phytoplankton (algae)

Source: SOE report 2009-2011, annual samples

Chlorophyll NOF Bands Medians	Ruamahanga Mainstem	Western Tribs	Valley Streams	Eastern
< 50	McLays 0.8	Tauherenik/Websters 8 Waingawa/South Rd 20 Waipoua/Colombo 38 Waiohine/Bicknells 35	Parkvale /Lowes 30	Mataikona 7 Awhea 42
< 120	Te Ore Ore 51 Gladstone 57 Pukio 54	Mangatarere /SH2 76		
< 200				Huangaaru 166
>200			Parkvale /Weir 221	Taueru 515 Kopuaranga 518 Whangaehu no data

# Phytoplankton hotspot Kopuaranga @ Stewarts



# Kopuaranga: median chlorophyll 500+ - drill back last 10 years 2004-2013



Source: GWRC SOE data

- 18
- 203
- 195
- 173
- 1220 (2008 drought year plus willows cleared)
- 689
- 515
- 350
- 100
- 312



# River DRP (dissolved reactive phosphorous)

Source: SOE report, 2008-2011

DRP Arbitrary bands Medians	Ruamahanga Mainstem	Western Tribs	Valley Streams	Eastern
< 0.01	McLays 0.002  Te Ore Ore 0.009	Tauherenikau 0.002 Waingawa 0.002 Waipoua 0.004 Waiohine/Bicknells 0.01	Parkvale (Lowes) 0.01	Mataikona 0.004 Whareama 0.004 Huangarua 0.005 Awhea 0.007 Taueru/top 0.008 Taueru/bott 0.01 Kopuaranga 0.01
< 0.03	Gladstone 0.02  Pukio 0.01			Whangaehu 0.03
< 0.05			Parkvale (Weir) 0.04	
> 0.05		Mangatarere /SH2 0.07		

# P hotspot – Mangatarere River

- CDC 70% P load, 50% N load (estimate)



Source: GWRC Mangatarere report 2010

Medians	Andersons Line	Belvedere Rd	Dalefield Rd	SH2	Beef Creek @ SH2
DRP mg/l	0.01	0.01	0.01	0.09	0.03
DIN mg/L	0.6	1.2	1.4	1.4	2.1
MCI		116	110	95	73
Chlorophyll		1	629	108	
Algae cover max %	3	6	14	93	

# River Clarity

Source: SOE report 2008-2011



Clarity (metres) Arbitrary bands Medians	Ruamahanga Mainstem	Western Tribs	Valley Streams	Eastern Tribs
> 1.6m	McLays 2.1m	Waiohine/top 2.5m Waiohine/bott 1.7m Waingawa/Sth Rd 2.6m Waipoua/Colombo 2.5m	Parkvale/Lowes 2.4m	
> 1.0m		Tauherenikau 1.5m Mangatarere /SH2 1.5m		Mataikona 1.5m Huangarua 1.3m
> 0.6m	Te Ore Ore 0.7m  Gladstone 0.7m			Taueru/top 0.9m Awhea 0.7m Whangaehu 0.6m Kopuaranga 0.6m
< 0.6m	Pukio 0.2m		Parkvale /Weir 0.5m	Taueru/bott 0.5m Whareama 0.5m

# Clarity hotspot – Taueru River

- hill country erosion/crack willow legacy



# Taueru: 50,000ha catchment

- monitored bottom of catchment (below dam)



Source: GWRC SOE reports

Taueru @ Gladstone	MCI	chlorophyll	Nitrate	DRP	e.coli	clarity
Excellent			0.6	0.01	105	
Good						
Fair	90					
Poor		515				0.5m

# Lake Wairarapa

- stable since 1994 when monitoring began



Source: SOE report 2012

Lake Wairarapa Trophic Lake Index	Chlorophyll a	Total N	Total P	Clarity
Mesotrophic				
Eutrophic	5.9	0.5		
Supertrophic				
Hypertrophic			0.08	0.2m

# Lake Onoke



Site No.  
Photo location

# Lake Onoke

Source: GW Coastal SOE report, annual assessments 2008-2011



- Key issue sedimentation rate
  - Onoke: 12mm/pa (inferred)
  - comparison: Whareama 6+, Waikanae 45
  - history: 1955 one million yards sediment pa
- Sedimentation driven by
  - up-catchment floods
  - outlet blocked (ave 17x pa)
- Patterns of sediment deposition
  - muddy/anoxic in western sub-tidal areas, but
  - dominant inter-tidal habitat sandy, well-oxygenated

# Farmer Meetings

October/November 2014



- Understanding our own rivers (80/20 game)
  - acknowledge most fair to good or excellent
  - prioritise the hotspots
- Understand patterns and drivers, current and historic
  - most data bottom of catchment; upstream monitoring where needed in priority catchments
  - tools for farmers to monitor own water quality
- Making the links
  - between the farm and the river; and
  - across the catchment community

# Whareama Partnership Example



Old Planning Focus	New Opportunity
Farming Economy	Community Economy
Disconnect with Water Quality	Own and Manage Water Quality
Stock Access	Recreation – swimming , fishing, boating
Flood Management	Inanga Spawning
Erosion Planting	Estuarine Health and Coastal Environment
	Sediment and flood management

**Whareama Community Partnership**  
**OWNS** water quality and **BALANCES** the values  
Enable in Regional Plan, develop in Whaitua

# Water Quantity

Source: GWRC Gyopari reports 2010



- Ruamahanga average daily water balance 900,000 m<sup>3</sup>/day
  - abstraction 70,000 m<sup>3</sup>/day, ie, **8%**
- Valley patterns: upper 4%, mid 6%, lower 11%
- Seasonal patterns: upper: winter 0.2%, summer 13%
- Hotspots (declining groundwater levels)
  - water balance is global but hotspots local, eg, Te Ore Ore
- Important all agree the base science, models (earlier, not later)

# Balancing values and uses

- Irrigation is 75% of Wairarapa water allocation
  - est. 35% average use; maybe 70% in dry summers
- Minimum flows
  - balancing across values and uses
  - reliability/certainty important for irrigators
- Encourage
  - efficiency, user groups/flow sharing, storage

# Waiohine Minimum Flows

3.5m<sup>3</sup>/sec versus 2.9m<sup>3</sup>/sec (Chris is average height)



# Regional Plan and Whaitua

## - new approach

- Collaboration and partnership
- Local decision-making
  - communities and catchments
- Frontloading
  - finding common ground
  - taking the time to get it right
  - take more time if needed!



# Shared Values

Acknowledgement: Ra Smith, Whaitua presentation, 2014



- Collective vision
- Learning from each other - farmers, iwi, council
- Recognising the past, acknowledging our strengths
- Reciprocity, give and take
- Collective action...
  - priority catchments (Mangatarere, Waimoana...)
  - partnership programmes, hill country and valley

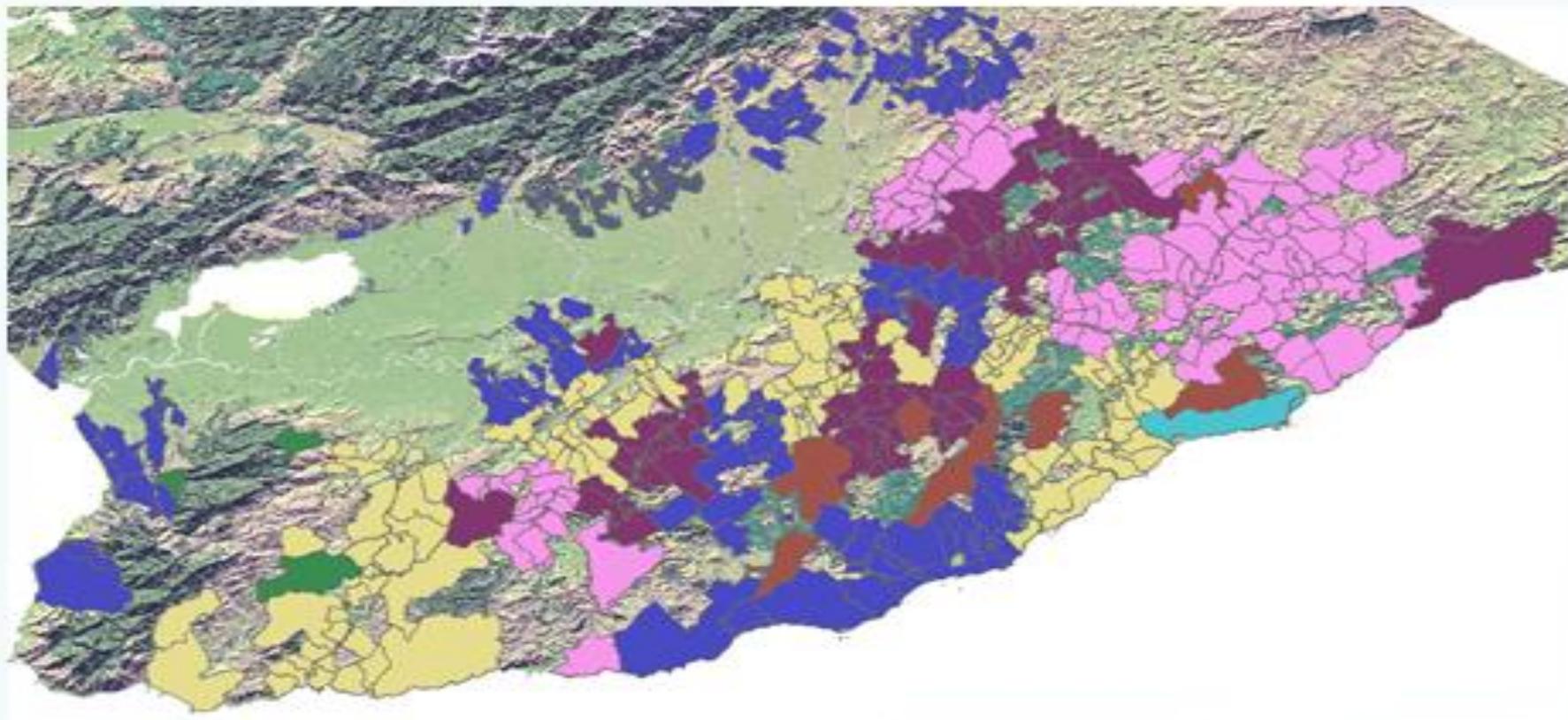
# Partnership - Farm Plans

- eastern hills: 800 farms, 500 plans
- valley: 200 farms, 70+ plans



**FEDERATED  
FARMERS**  
OF NEW ZEALAND

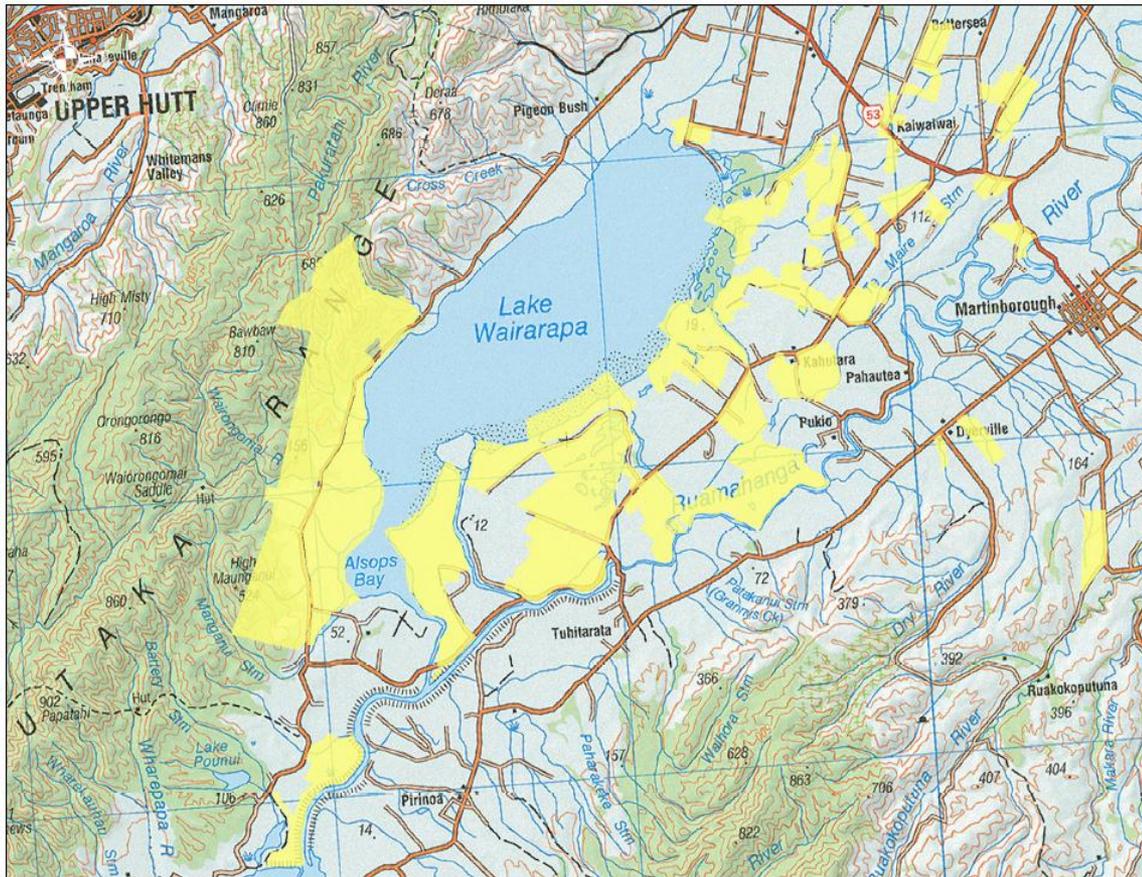
Source: GWRC land management 2015



# Farm Plans – Waimoana

- last year works \$300k, this year \$700k

Source: GWRC land management 2015



# Safeguarding indigenous species

“Wairarapa bling glistening in our waters”

Acknowledgement: Ra Smith, Whaitua presentation, 2014

- Fish surveys, citizen science
- Native fish sanctuaries
- Restoring Wairarapa eel fishery
- Opportunities to work together

# Recreation values



- swimming, trout, water skiing
- Finding the balance
- Swimming
  - make sure the swimming holes are safe
  - prioritise times when people are swimming (< median flows) not when rivers are running high
- Trout fishing
  - 300 fishermen in the Wairarapa?
  - concentrate on native fish first (if it's good for the native fish, then probably good for trout)

# Valuing Primary Production



- Shift from WDFD to draft
  - was 40+ objectives for environment, recreation
  - nil for primary production
- Not about economy vs environment
  - we're here for both
  - it's about finding the working balance

# Growing the economy and shrinking the footprint

Source: DairyNZ and B&L industry data; GWRC SOE reports



- Dairy
  - Wairarapa cow numbers up 2x, milk solids up 3x, irrigation allocation up 4x since 1990
- Sheep & Beef
  - production/ha up 67%, nutrient efficiency up, N footprint stable, greenhouse gases stable
- Wairarapa water quality
  - **stable**

# Sector Presentations

programmes, investments, progress



Wairarapa Water Users



# Going Forward



- Where can we work together
  - Industry good practice
  - Utilisation of industry programmes and research
  - Allocation principles and models
  - Delivery of catchment partnerships on the ground
- Solutions and Outcomes focused
  - pragmatic and achievable

# Contacts



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