



# **THAT DAM**

## **— OPUHA IN SOUTH CANTERBURY**

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The Changing Face of Farming  
12<sup>th</sup> June 2014

# THAT DAM

## – OPUHA IN SOUTH CANTERBURY



Opuha Dam Background



Hyslop Family Opportunities & Growth



South Canterbury: Community Confidence

- Case Studies of Farming & Community Growth



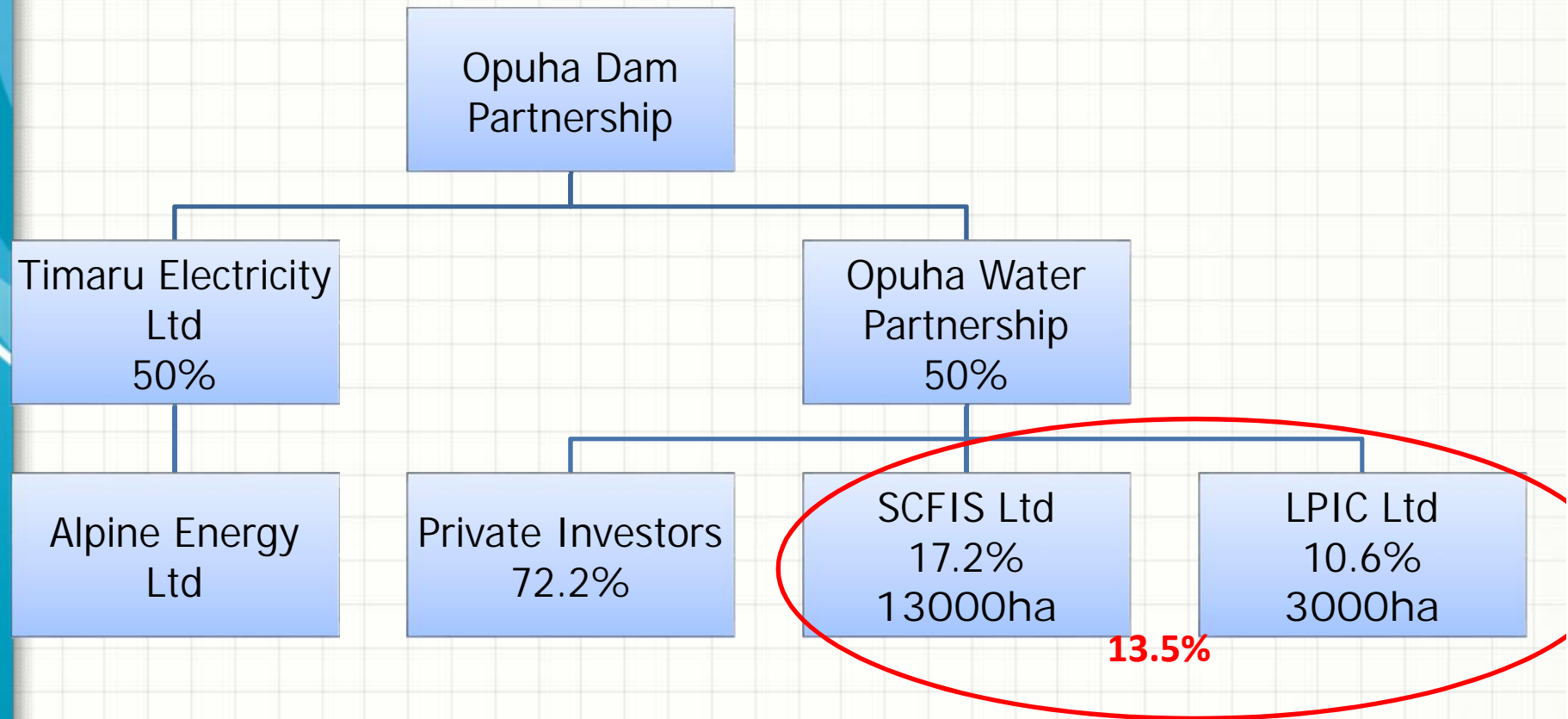
Continuous Change and Challenges Ahead



Water – the back bone for New Zealand's Stronger, Sustainable Communities.



## Opuha Dam Background





Opuha Dam Background

**June 2014..**

# **Opuha Water Co-op**

**- Individual Water Shareholders 16000ha**

**- Infrastructure Shareholders**

**Levels Plains**

**Kakahu**

**Totara Valley**

**Cascade Creek**

**Sutherlands**



## Opuha Dam Background

- Command area – 16,000ha
- Storage is 72 million m<sup>3</sup>
- Surface area is 710 ha (lake full, RL 392.2m)
- Lake working range 22m (Minimum Operating Level RL 370m )
- It is expected that one year in 20 the lake will lower to Minimum Operating Level (RL 370m)
- On average, approximately 20% of water released is used for irrigation
- Since 2007 the scheme has been 100% owned by farmers. (~250 shareholder farmers)



## Opuha Dam Background

- **Reliability**
  - Theoretical 92%
  - Actual to Date >99%
  - 2012/13 (national drought) 100%
- **Priority of Water Releases**
  - 1st Environmental Flow
  - 2nd Town Supply and Stock water
  - 3rd Irrigation
  - 4th Electricity Generation
- This gives confidence to all in our community



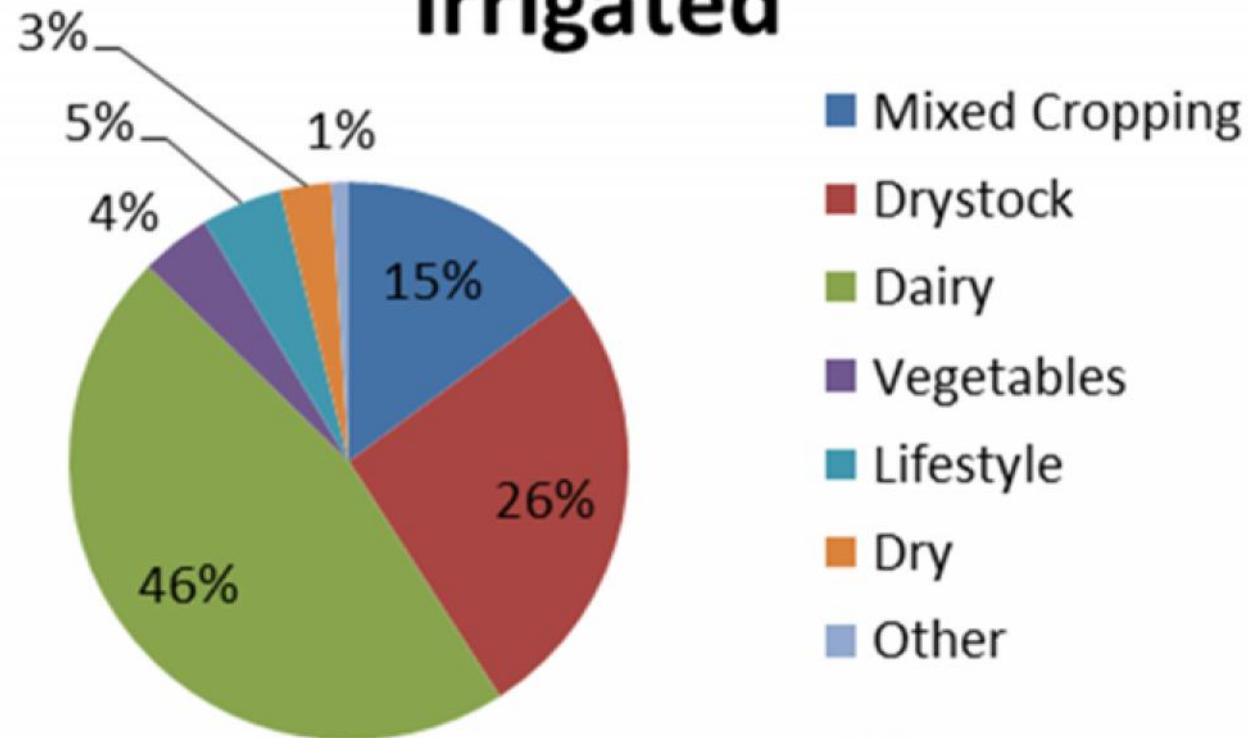
## Opuha Dam Background

- Annual Water Charge \$200/ha (= 3.6c/m<sup>3</sup>)
- Additional scheme charges across three schemes \$40 to \$280/ha (0.7c – 5c/m<sup>3</sup>)
- => Total annual water charges \$200 - \$480/ha (3.6c – 8.6c/m<sup>3</sup>) but not pressurised
- Water Shares Trading @ \$5000/ha or \$1/m<sup>3</sup>
- 50% Dairy : 50% Sheep/ Beef/ Arable/ Dairy Support



## Opuha Dam Background

### Land Use by Area Irrigated







## Opuha Dam Background

	<b>Impact of Irrigation in 2006 \$\$</b>
Output (\$/yr)	<b>+\$124,000,000</b>
Value Added (\$/yr)	<b>+\$41,000,000</b>
Household Income (\$/yr)	<b>+\$20,000,000</b>
Employment (FTE's)	<b>+480 FTE's</b>

***THE OPUHA DAM: AN EX POST STUDY OF ITS IMPACTS ON THE LOCAL ECONOMY & COMMUNITY***

***Harris Consulting. May 2006***



## Hyslop Family Opportunities & Growth

Levels Estate	1999 Pre Opuha 227ha 26ha Border Dyke 75% reliability	2013 Post Opuha 227ha 208ha Spray Irrigation 92% Reliability
Farming Type	Sheep/Beef/Deer/Crop	Sheep/Beef/Dairy Support/Crop
Productivity	280kgCW/ha meat/wool 280T grain	740kgCW/ha meat/wool 400T grain
Financial:		
Gross Income	\$1683/ha	\$3976/ha
Farm Working Exp	<u>\$875/ha</u>	<u>\$2028/ha</u>
E.B.I.T.	\$808/ha	\$1948/ha
Other:		
Tax	\$0-\$15K/yr	\$60-\$100K/yr
School Age Children	3 (1 family)	3 + 2 pre-schoolers (2 families)
		Still Want More Scale BUT now Strong Economic Unit.



- Growth of diverse businesses offering long term employment in South Canterbury
  - Heartland Chips / Bowan Family – **Added Value!**
  - Waipopo Orchards & “Honeycrisp” Apples
  - Temuka Transport.....
  - No Water – no stable production of commodities
    - no confidence to **“Add Value”**



## South Canterbury: Community Confidence

- Case Studies of Farming & Community Growth

Alpine Fresh : Tony Howey	Pre Opuha 1997 Ha Farmed	Post Opuha 2013 Ha Farmed
Enterprises	Potatoes 72ha Grain & Seed 393 ha	Potatoes 113ha Onions 110ha Carrots 104ha Grain & Seed 447ha Blackcurrants 72ha
Productivity	1400 tonne Grain & Seed <b>4000 tonne Potatoes</b>	2700 tonne Grain & Seed <b>21,600 tonne Vegetables</b> 360 tonne Berryfruit
FTE's	6 Wage bill \$233k	30 Wage bill \$1,080k
Financial:	<b>GFI \$1,600k</b>	<b>GFI \$8,100k</b>



## South Canterbury: Community Confidence

- Case Studies of Farming & Community Growth

Glenire Farm	494 ha sheep/arable cattle finishing	348 ha dairy farm 146ha balance dairy support
Productivity	150,000kg product @ \$4.25/kg	540,000kg product @ \$6.75/kg
FTE's	2.5	6.0
Farm Working Exp	\$400,000	\$1,850,000
Financial:		
Gross Income	\$1,290/ha	\$7,378/ha over all land
Farm Working Exp	<u>\$ 809/ha</u>	<u>\$3,745/ha</u> over all land
E.B.I.T.	\$ 481/ha	\$3,411/ha
Other:		
Tax	<b>\$0-\$50K/yr</b>	<b>\$200-\$300K/yr</b>
School Age Children	?	5
Rugby Players MRFU	?	3

- Tax increase of \$700/ha on \$5000/ha share price = 14%!



## South Canterbury: Community Confidence

- Case Studies of Farming & Community Growth

Temuka Transport	2000	2013
Trucks on Road	21	78
Grain Transported	1466	1586
Community Sponsorship	25000	90000
\$ in Cartage:		
Sheep	113,000	350,000
Beef	64,300	1,200,000
Dairy	950,000	7,500,000

- **Timaru District 3.7% growth in 2013**



## South Canterbury: Community Confidence

- Case Studies of Farming & Community Growth

### Community Recreational Growth

- 710ha lake used for:
  - Water sports
  - Rowing (Timaru schools base for competitive rowing).
  - Fishing (new brown trout fishery estab in lake)
  - General Recreation
- Opuha and Opihi Rivers
  - Fishing
  - General Recreation





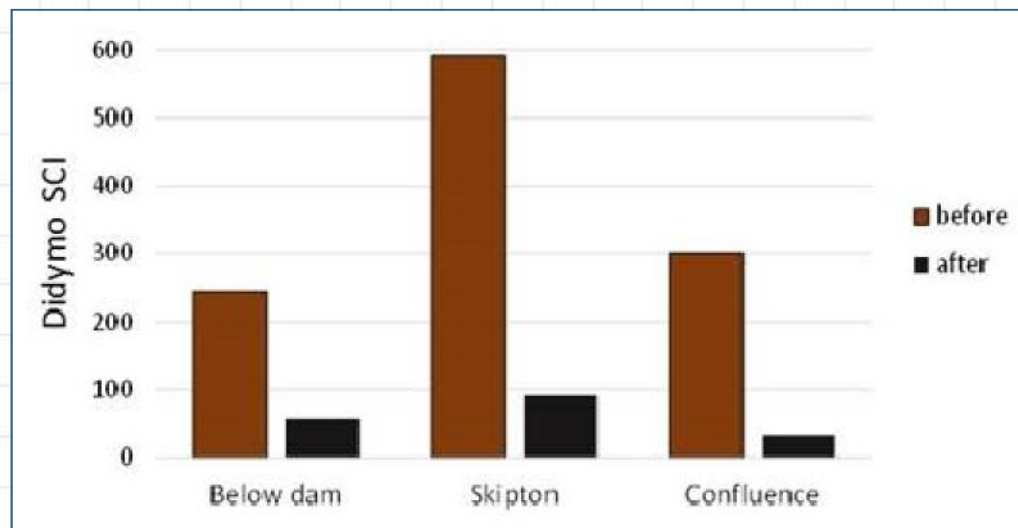
## Continuous Change and Challenges Ahead

- Opuha, like other NZ rivers, faces challenges of land intensification and water quality.
  - Didymo (introduction not related to dam)
  - Phormidium (present pre and post Opuha Dam)
  - Nutrient Levels
- February 2014: Opuha Dam released successful flush to move both Didymo and Phormidium from the river out to sea.



## Continuous Change and Challenges Ahead

### February 2014 Flushing Flow

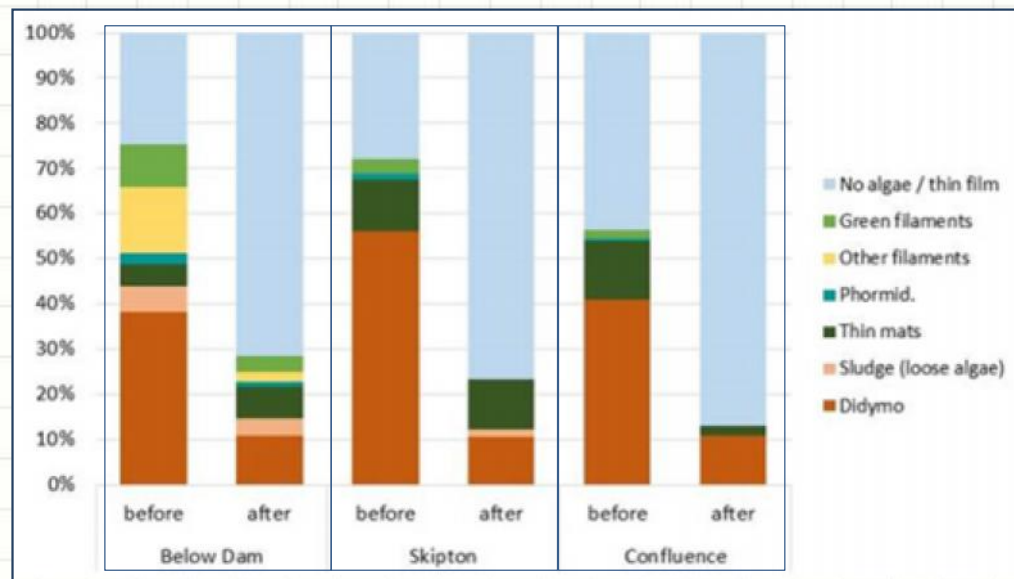


- Didymo removal 76%, 85% and 89%
- Improved on 2013 41%, 12% and 40%
- **ADAPTIVE MANAGEMENT!**



## Continuous Change and Challenges Ahead

### February 2014 Flushing Flow



- Low concentrations of Phormidium this season
- Flush removed 100% phormidium at two of three sites



## Continuous Change and Challenges Ahead

- South Canterbury community based groups, led by the Zone Committee, are currently working under the CWMS to find solutions to water challenges in region.

**OUR COMMUNITY / OUR SOLUTIONS**



## Water Storage– the back bone for New Zealand's Stronger, Sustainable Communities.

- New Zealand has an abundance of water (95% goes out to sea) BUT
- Not always in right place at right time for NZ's to use it.
- As climate changes and many areas of the world face water shortages, NZ's have an opportunity to better utilise our water resources while continuing to enjoy and maintain our environment.



## Water Storage – the Back Bone for New Zealand's Stronger, Sustainable Communities.

- Our communities must be supported to work through opportunities.
  - Strong leadership with vision
  - Good robust science
  - Transparent discussion by all stakeholders
  - Community solution & innovation
  - Funding mechanisms (intergenerational)
  - Continuous Improvement

# WATER STORAGE & USE FOR ALL

