



THAT DAM

— OPUHA IN SOUTH CANTERBURY

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The Changing Face of Farming
12th June 2014

THAT DAM

– OPUHA IN SOUTH CANTERBURY



Opuha Dam Background



Hyslop Family Opportunities & Growth



South Canterbury: Community Confidence

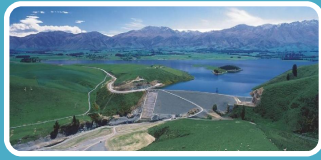
- Case Studies of Farming & Community Growth



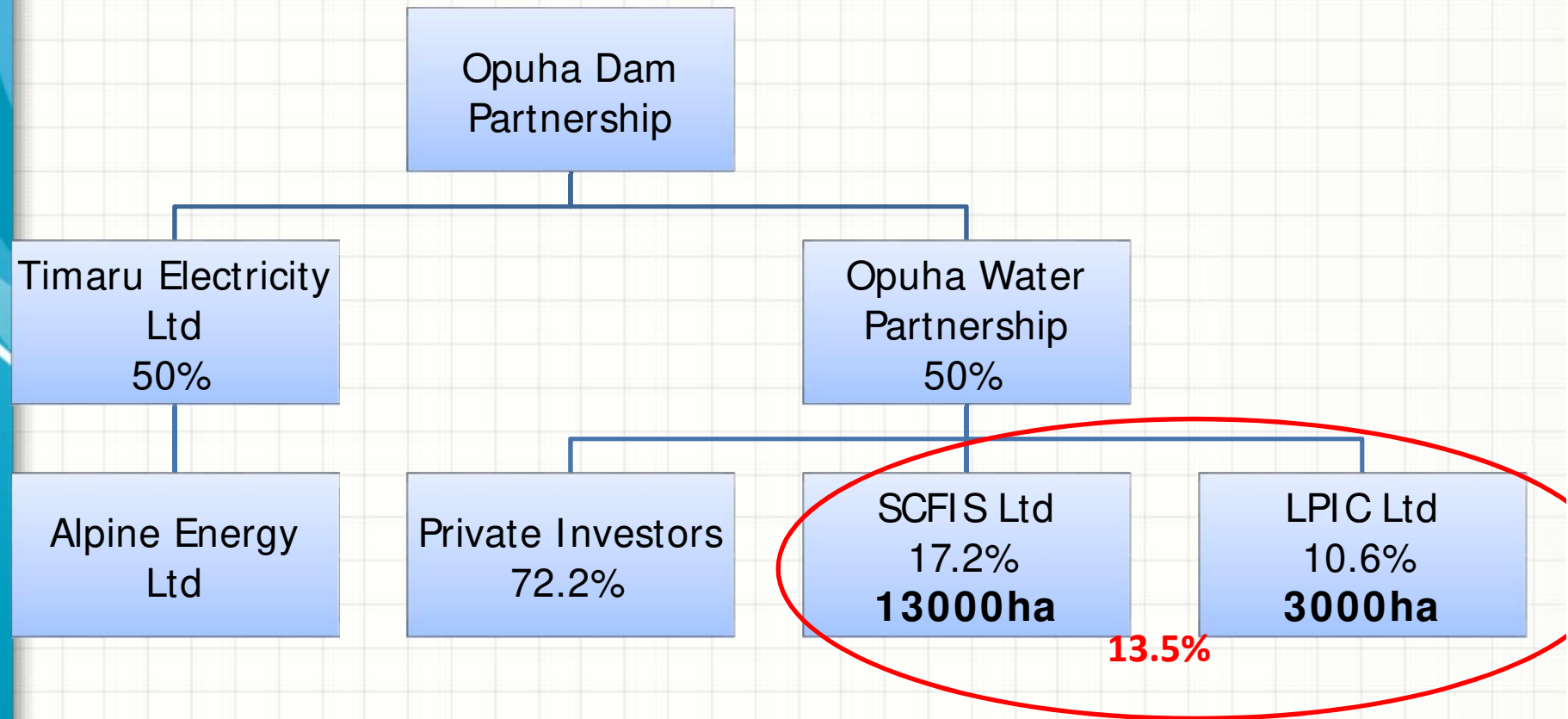
Continuous Change and Challenges Ahead



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 m³
- 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



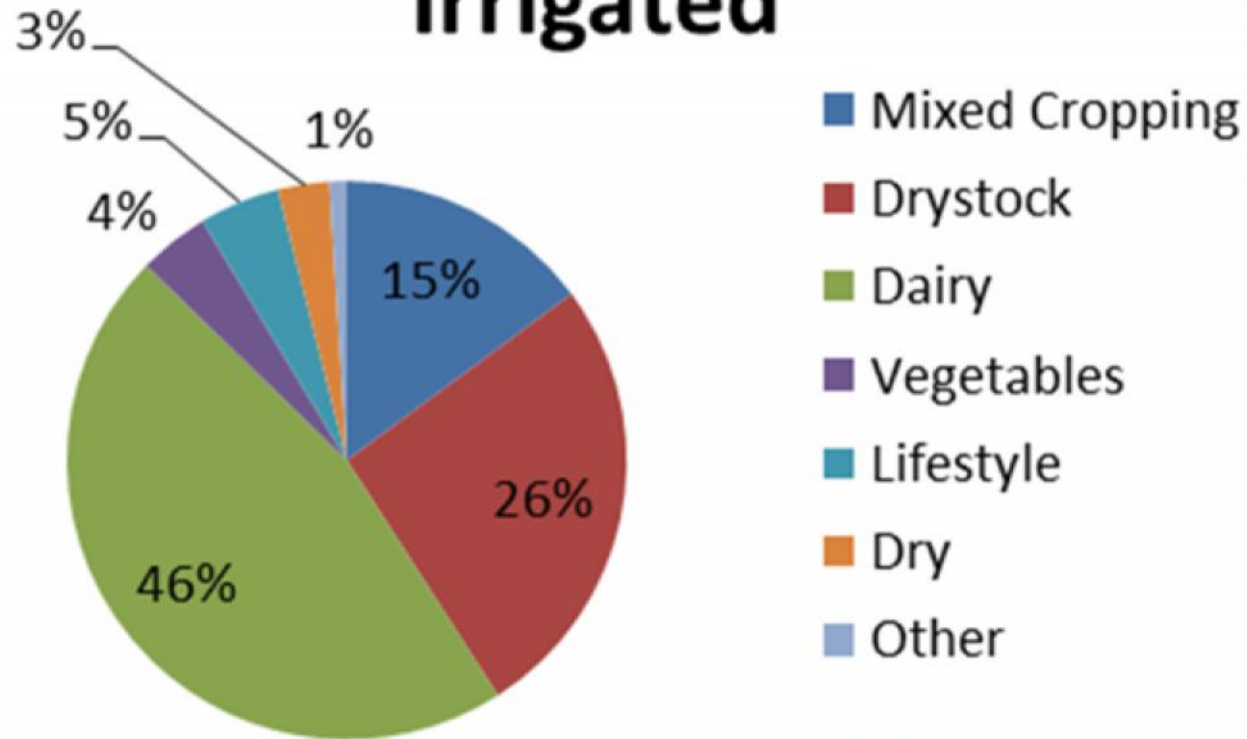
Opuha Dam Background

- Annual Water Charge \$200/ha (= 3.6c/m³)
- Additional scheme charges across three schemes \$40 to \$280/ha (0.7c – 5c/m³)
- => Total annual water charges \$200 - \$480/ha (3.6c – 8.6c/m³) but not pressurised
- Water Shares Trading @ \$5000/ha or \$1/m³
- 50% Dairy : 50% Sheep/ Beef/ Arable/ Dairy Support



Opuha Dam Background

Land Use by Area Irrigated





Opuha Dam Background

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

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 4000 tonne Potatoes	2700 tonne Grain & Seed 21,600 tonne Vegetables 360 tonne Berryfruit
FTE's	6 Wage bill \$233k	30 Wage bill \$1,080k
Financial:	GFI \$1,600k	GFI \$8,100k



South Canterbury: Community Confidence

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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	\$0-\$50K/yr	\$200-\$300K/yr
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



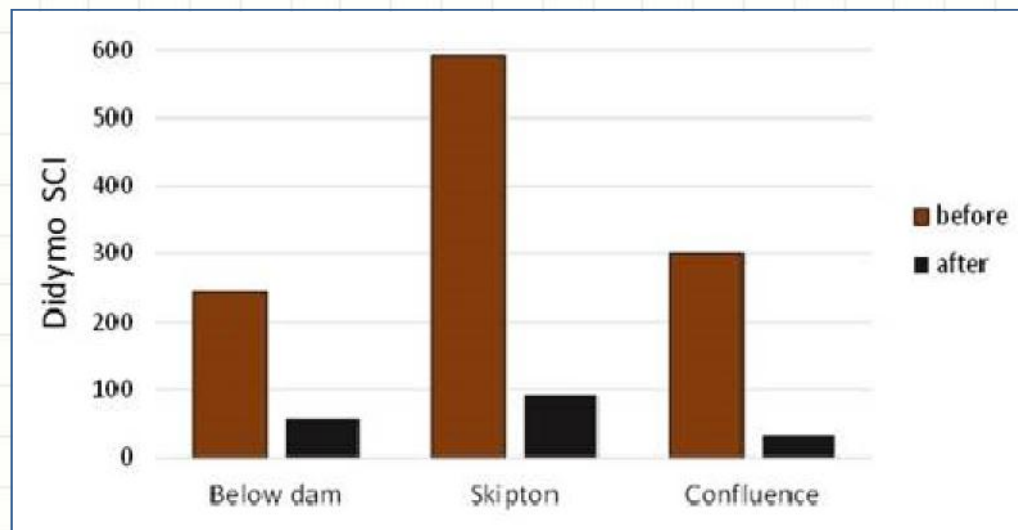
Continuous Change and Challenges Ahead

- 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

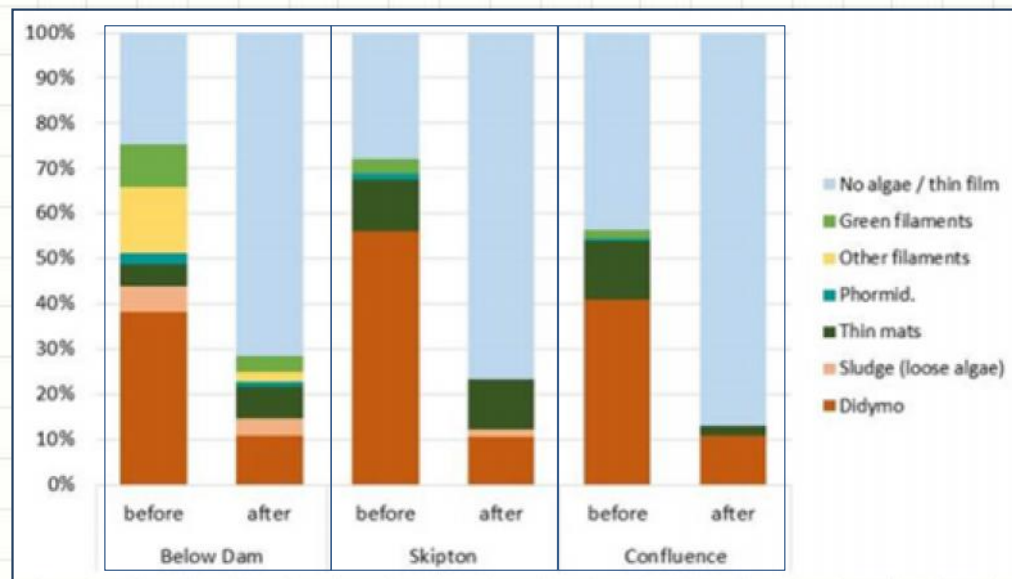


- Didymo removal 76%, 85% and 89%
- Improved on 2013 41%, 12% and 40%
- **ADAPTIVE MANAGEMENT!**



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

