Cobb Generation and Storage

Takaka 2015

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Contents

Consents

Key Dates	• Granted 2003 • 35 year consent term • 5 yearly review provision
Operating Parameters	• Lake level limits • Max take from Cobb Reservoir 10 cumecs • Max discharge from station 10 cumecs • Currently discharge capability 7.5 cumecs
Monitoring	• Water quality • Aquatic macro invertebrates • Native fish and trout
Tasman Environmental Trust	• Trust administers the Cobb Mitigation Fund • Total $600k in three instalments of $200k • Funding for environmental enhancement projects in Golden Bay

Catchment Characteristics

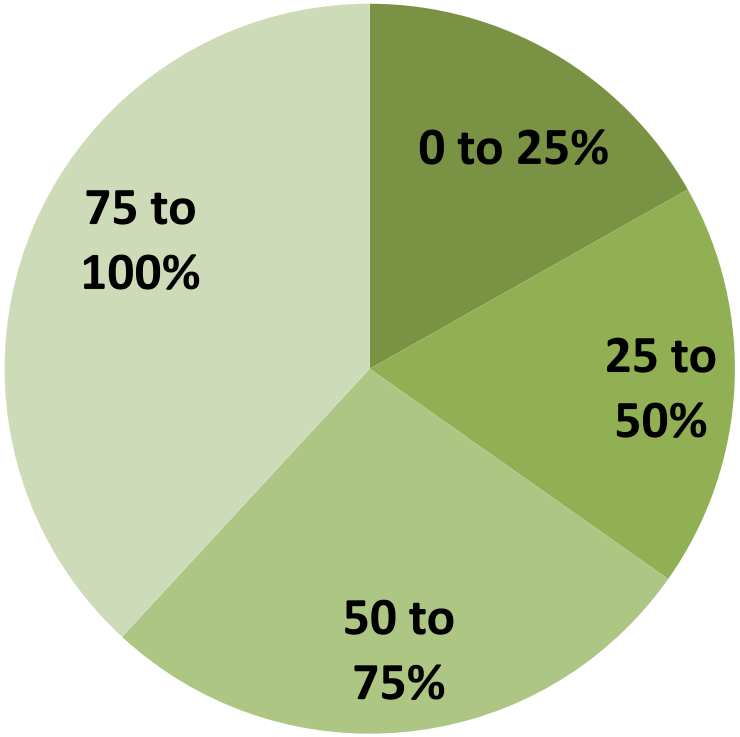
	Area	Mean Flow		Average Annual Min
	sq km	m^3/s	Mil m^3	m^3/s
Cobb @ Trilobite	47.0	3.80	120	0.37
Cobb Reservoir (surface area)	2.1			
Cobb @ Dam (incl lake)	70.0	5.40	170	
Diamond Lakes + Tribs Below Dam	40.0	2.60	82	0.32
Upper Takaka Above Power Stn	100.0	5.00	158	0.70
Lower Takaka Gorge & Tribs	49.0	1.70	54	0.30
Takaka @ Harwoods	260.0	14.70	464	1.33
Takaka @ Kotinga	713.0			
Takaka @ Mouth	890.0			

Storage Statistics

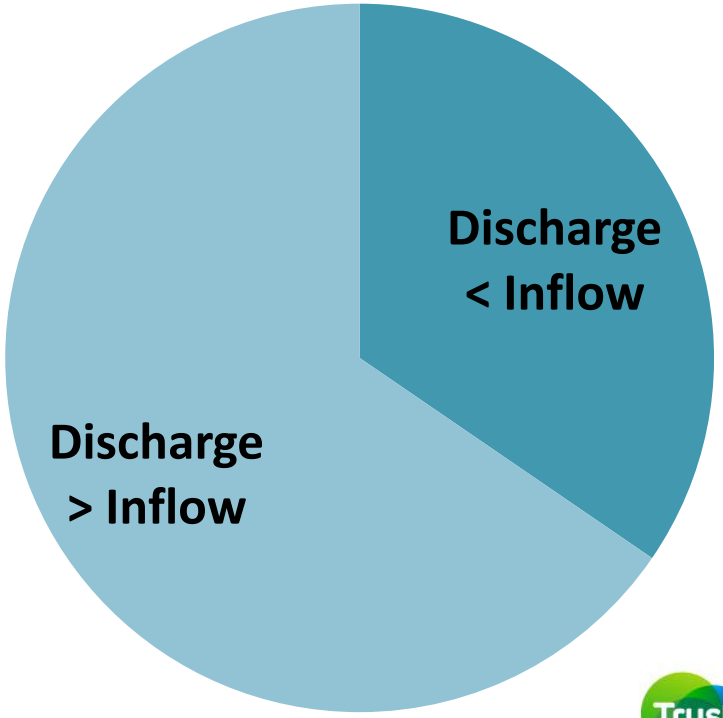
Level	Level	Operational Storage		Storage / m	
	(m)	(mil m^3)	(GWh)	(mil m^3)	(GWh)
Max Flood WL	810.1	31.7	42.8		
Top Gates	808.3	27.2	36.7		
Normal Max	807.7	25.8	34.8	2.4	3.3
Spillway Sill	802.5	13.9	18.7	2.3	3.1
Nominal Min	794.0	-	-	1.6	2.2
Extreme Min	792.5				

Operational Statistics

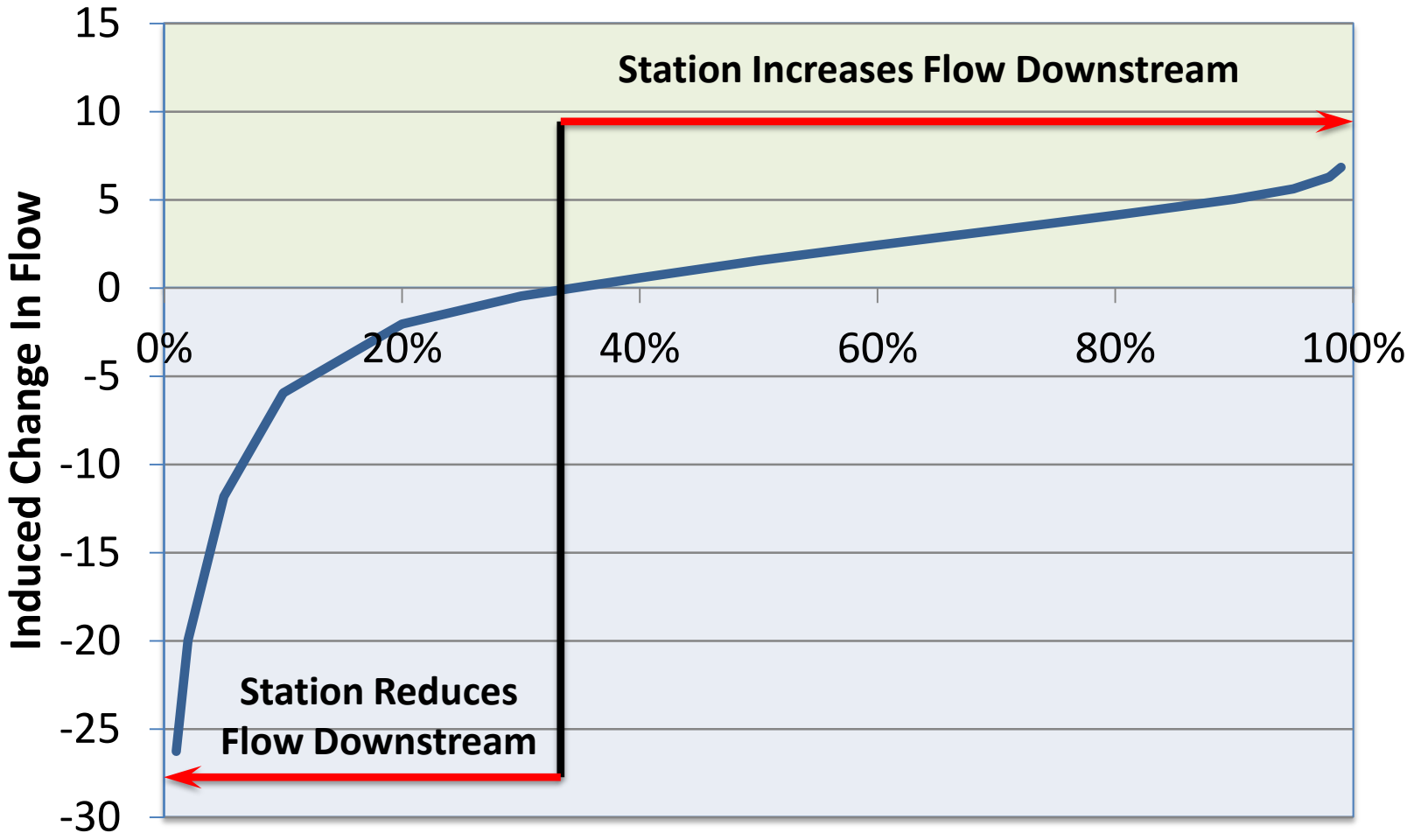
Portion of Time Output Falls within;



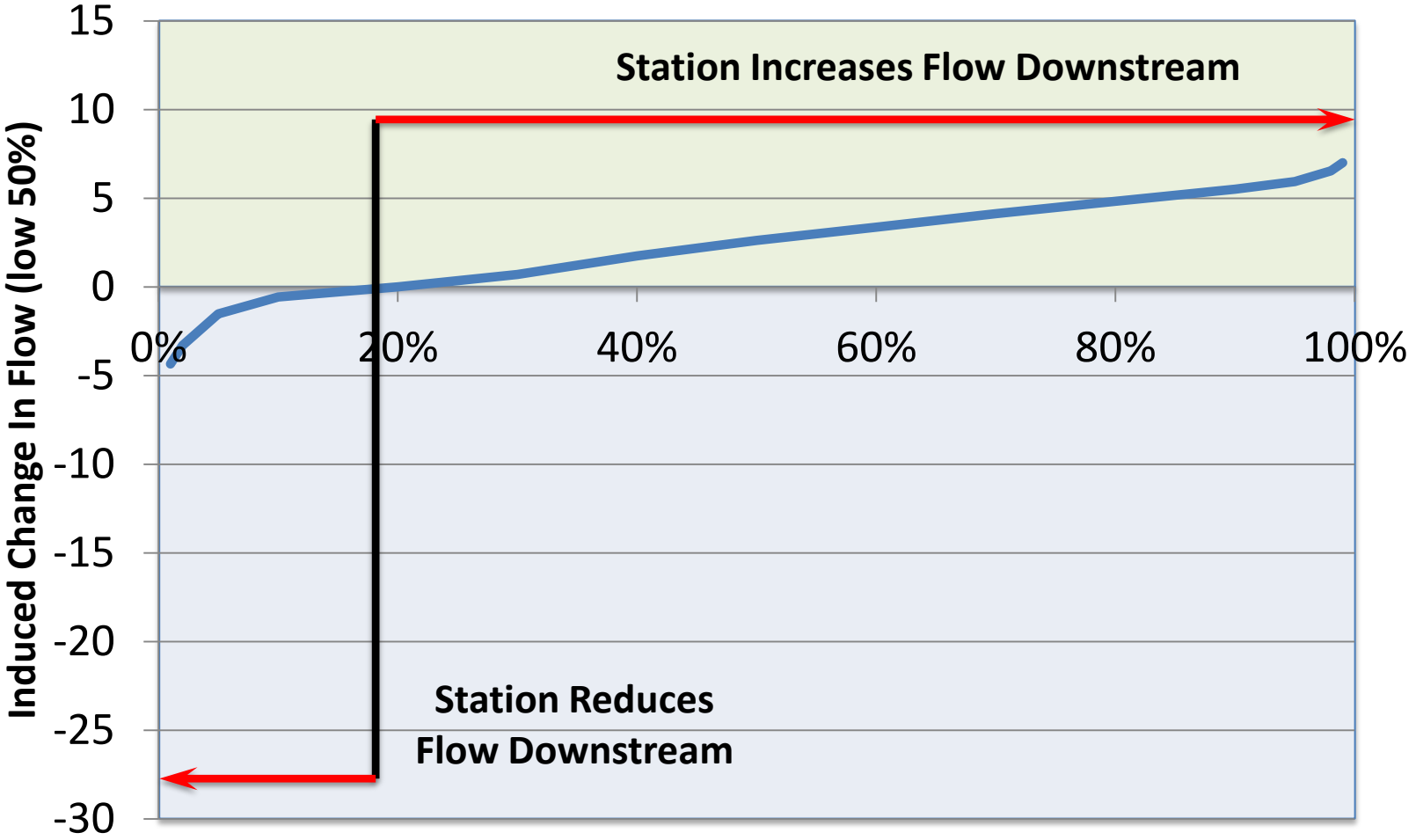
Stations Influence on Flow



Operational Statistics: All flows



Operational Statistics: Flow < Median



Other Notes

Grid Support	• Station is used for grid support for the area – sometimes “Must Run”
Location Value	• Partially offsets the higher cost of power paid by Top of Sth Is due to transmission.
High Head	• Highest Station Head in NZ = most efficient converter of flow to energy.
Moderate Storage	• Storage is moderate in terms of % of annual flow volume (18%)
Good Utilisation	• Storage utilisation is good – 230% (refills on average every 5 ½ months).
Low-Moderate Spill	• Spill frequency – low-moderate. (nil to several times per annum).