



**2019-2020
RIVER MANAGEMENT ACTIVITY GROUP**

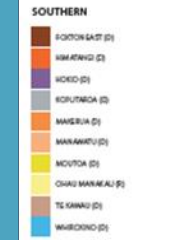
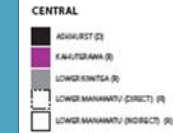
**WHANGAEHU-MANGAWHERO SCHEME and
TURAKINA SCHEME MEETINGS**

HORIZONS RIVER MANAGEMENT

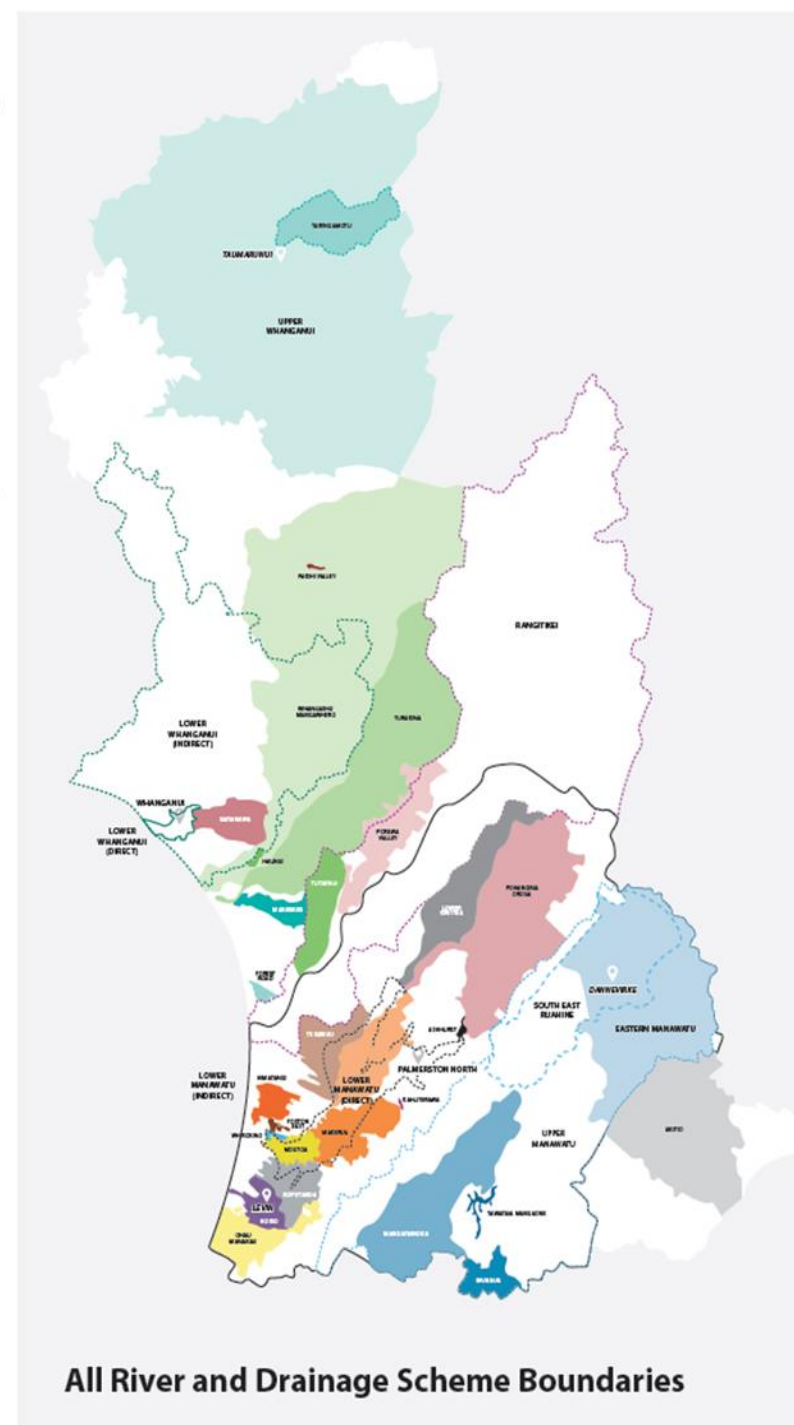
32 staff with a current operating budget of \$11M

34 River and drainage schemes

Providing protection/benefit to 10 urban areas and 75,000 hectares of rural land



(D) Drainage | (R) River



All River and Drainage Scheme Boundaries



1,270km of river channel



1,100km of drain



23 pump stations with a total discharge capacity of 43m³/s

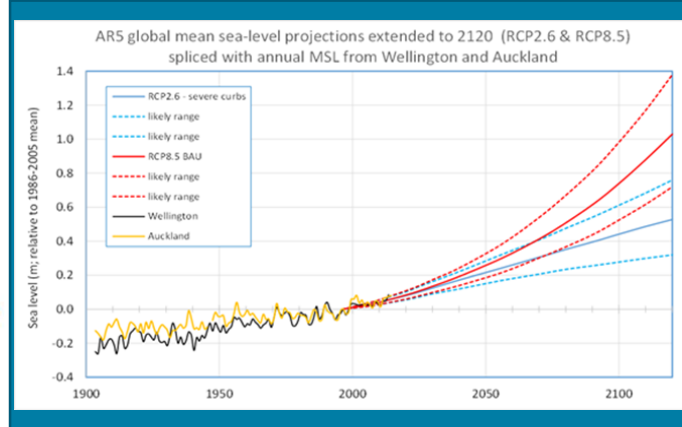


53 detention dams that store 4.3 million cubic metres of floodwater



500km of stopbanks





SIGNIFICANT RIVER MANAGEMENT ISSUES FOR THE REGION

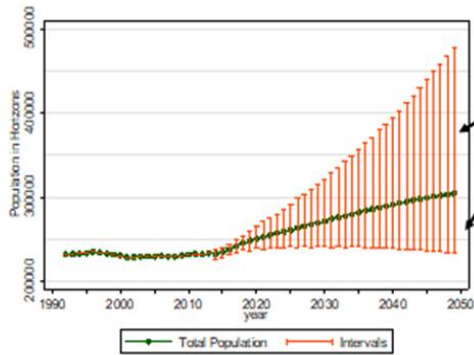
Operational reliability

Sediment build-up reducing flood protection standards

Urban growth

Climate change

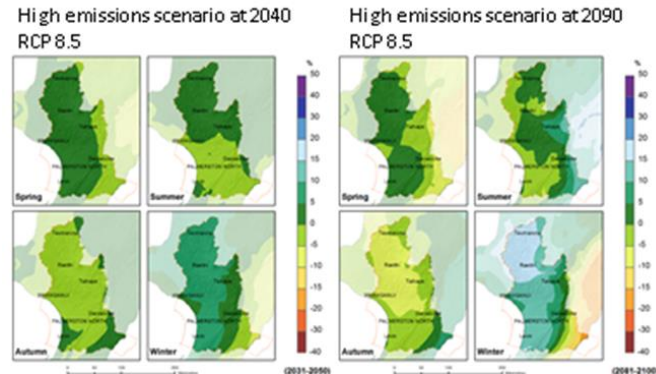
The population within the region is likely to grow to over 300,000 by 2050.



Shows likely upper and lower bounds

Annual growth for 1995-2015 was almost 0%
For 2015-2048 population projected to grow at an average of 0.9%

Horizons rainfall projections



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Whangaehu-Mangawhero Scheme Facts

Scheme Assets.

None

Predominantly a vegetation Scheme.

Scheme Area 2834km²

Two main catchments – the Whangaehu and Mangawhero Rivers.

Predominantly servicing dairy and hill country pastoral land.

Turakina Scheme Facts

Scheme Assets.

None

Predominantly a vegetation Scheme.

Scheme Area 860km² and 140km in length

Predominantly servicing dairy and hill country pastoral land.

WHANGAEHU-MANGAWHERO SCHEME and TURAKINA SCHEME

Strategic Direction

The focus of the Scheme over the next 3 years is to continue to maintain river banks in a vegetation state that maximises flow rates and minimises erosion scour.

Aim

To maintain a level of service that meets the expectation of the local community for flood conveyance through vegetation management, drainage and recreational use.

Scheme Level of Service

To maintain river alignment in order to minimise river bank erosion.

Scheme Funding

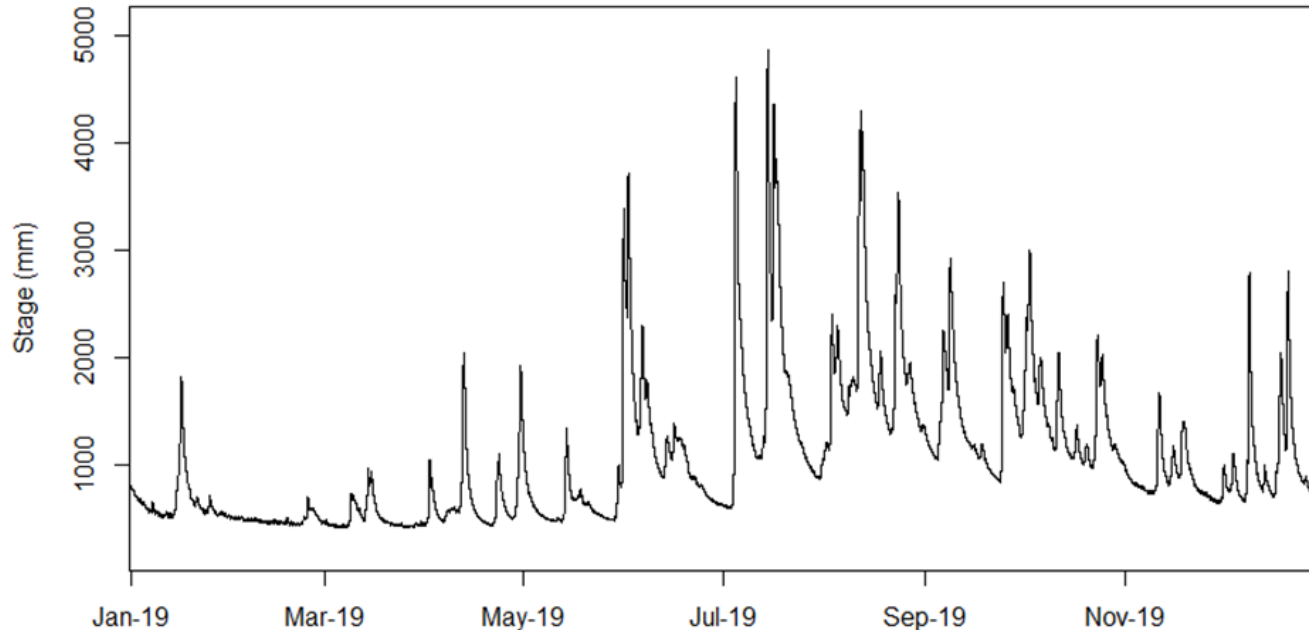
Funding Policy

The Schemes funding comes from three revenue sources:

- Targeted Rates – differential targeted rates levied on properties directly benefiting from or causing the need for the work.
- General Rates – uniformed rate levied over all properties in the Horizons Region.
- Other income – Revenue from lease land, forestry blocks, scheme reserves, etc. held by the scheme. This is used to reduce the level of the targeted rate

Whangaehu at Kauangaroa

Whangaehu at Kauangaroa



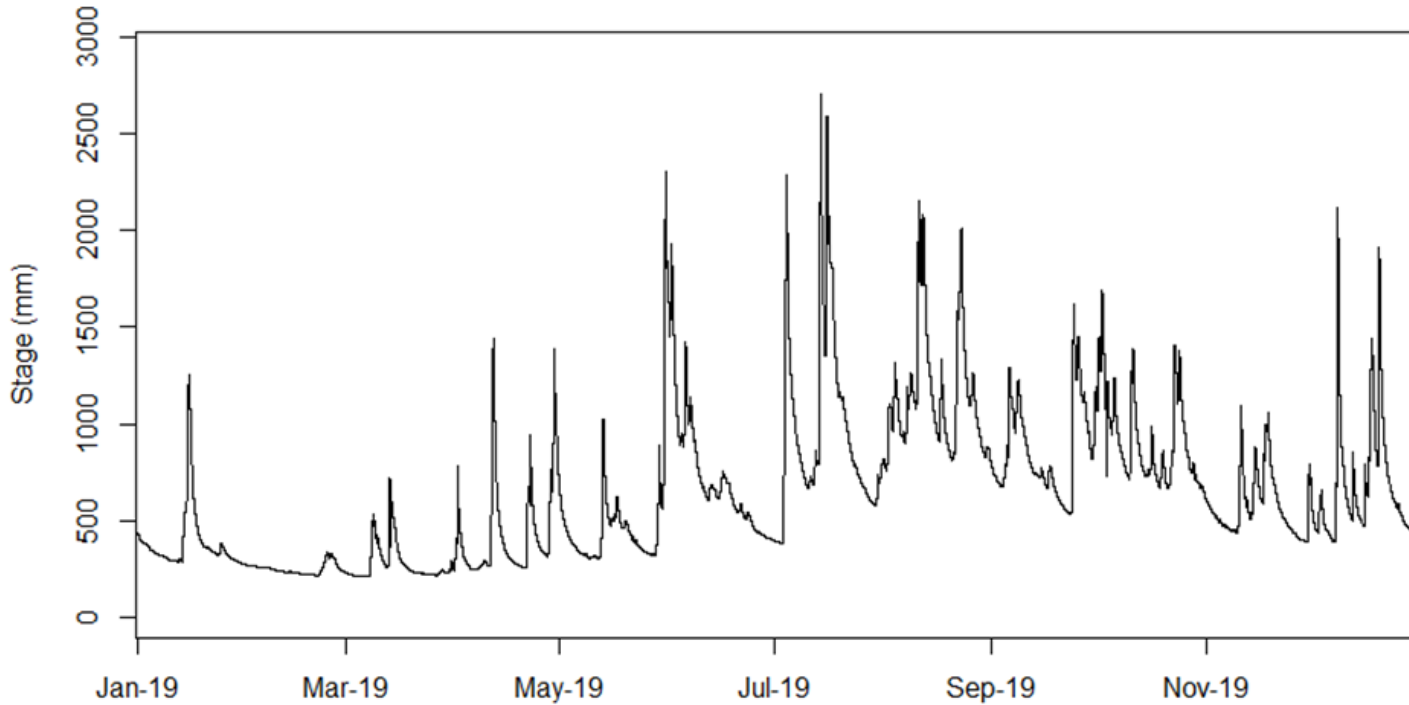
Annual maximum stage for the past decade

Year	Stage	Flow	Date
2009	5.036	310.511	2009-07-24 18:45:00
2010	7.025	512.821	2010-09-07 05:45:00
2011	8.396	668.665	2011-01-24 07:45:00
2012	5.086	315.135	2012-01-09 04:15:00
2013	10.877	1004.555	2013-10-15 23:30:00
2014	6.518	459.313	2014-08-03 19:00:00
2015	12.513	1314.180	2015-06-21 02:00:00
2016	5.298	313.979	2016-07-24 18:55:00
2017	7.563	579.228	2017-04-04 20:45:00
2018	6.015	407.850	2018-12-26 03:10:00
2019	4.872	299.424	2019-07-15 05:45:00

Mangawhero at Ore Ore

Annual maximum stage for the past decade

Mangawhero at Ore Ore

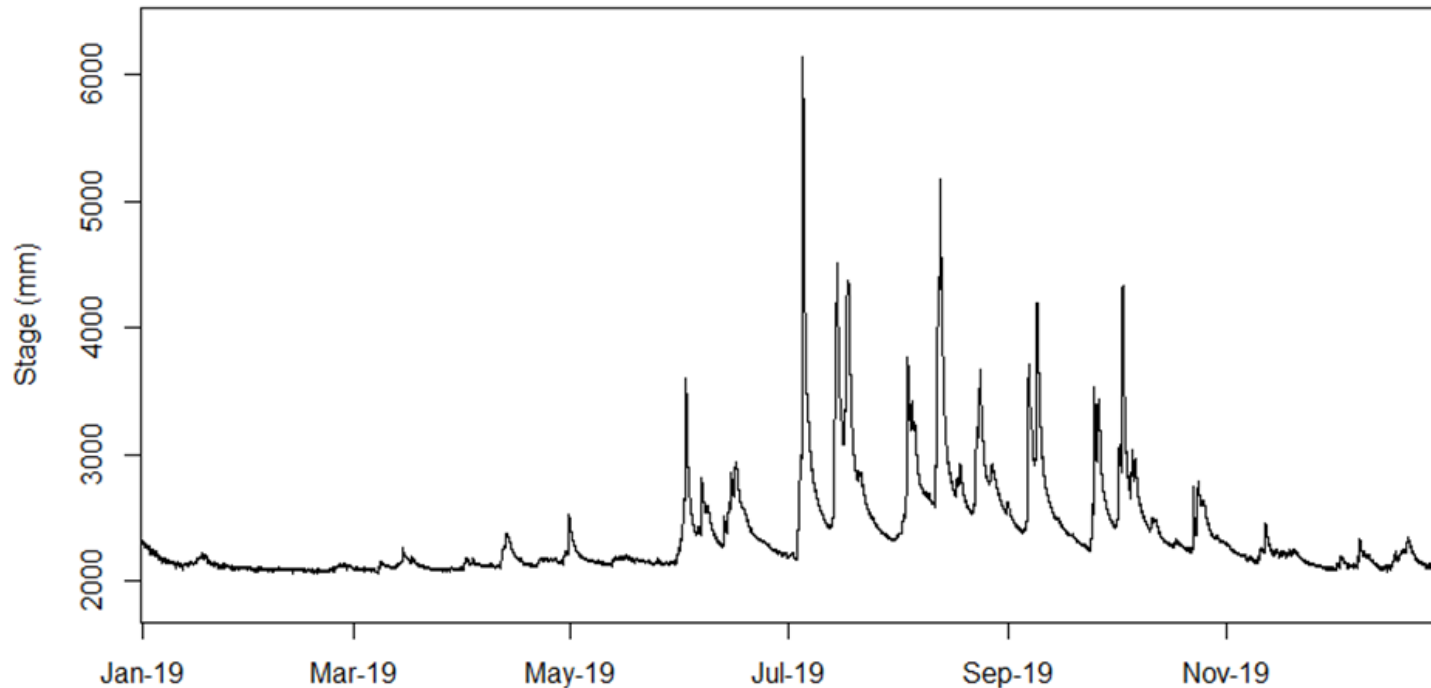


Year	Stage	Flow	Date
2009	2.679	154.642	2009-07-24 08:00:00
2010	3.619	274.307	2010-09-06 21:30:00
2011	3.621	274.611	2011-01-23 23:45:00
2012	2.617	148.098	2012-01-02 02:35:00
2013	5.921	734.328	2013-10-15 16:15:00
2014	3.590	269.926	2014-08-03 10:55:00
2015	5.930	736.445	2015-06-20 17:15:00
2016	3.127	205.723	2016-07-24 08:00:00
2017	3.733	291.939	2017-04-04 11:05:00
2018	2.339	119.619	2018-04-16 16:25:00
2019	2.709	157.842	2019-07-14 18:50:00

Turakina at O'Neills Bridge

Annual maximum stage for the past decade

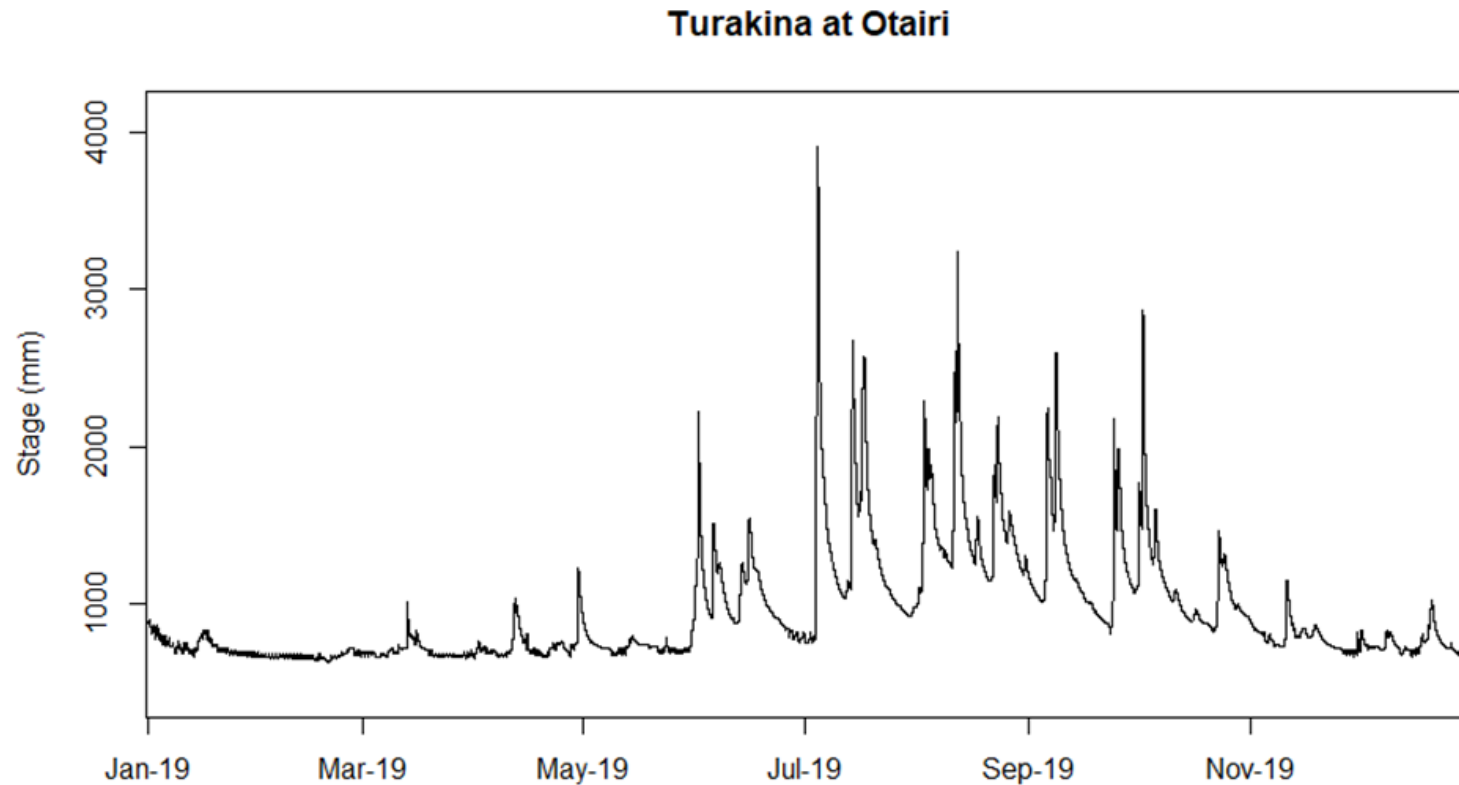
Turakina at ONeills Bridge



Year	Stage	Flow	Date
2009	6.538	179.838	2009-10-05 05:30:00
2010	7.736	262.641	2010-09-07 03:45:00
2011	6.967	208.178	2011-07-12 12:30:00
2012	6.334	166.876	2012-01-02 07:30:00
2013	10.224	479.495	2013-10-16 00:45:00
2014	5.549	120.135	2014-08-04 00:50:00
2015	11.052	380.458	2015-06-21 01:50:00
2016	6.080	135.311	2016-11-08 21:30:00
2017	7.807	213.628	2017-07-14 21:30:00
2018	5.864	117.533	2018-08-24 04:45:00
2019	6.142	130.963	2019-07-05 15:45:00

Turakina at Otairi

Annual maximum stage for the past decade



Year	Stage	Flow	Date
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	3.508	149.259	2014-08-03 12:05:00
2015	7.883	884.171	2015-06-20 19:40:00
2016	4.039	206.962	2016-11-08 10:45:00
2017	5.409	395.952	2017-07-14 11:15:00
2018	3.707	169.901	2018-09-05 01:35:00
2019	3.909	192.059	2019-07-05 04:15:00

Key Activities and Issues: 2019-20

Scheme Expenditure

Expenditure is reduced due to aerial spraying not taking place and both schemes will be under budget.

Works Activity

Vegetation Maintenance Downstream of SH3 (Turakina)

On water inspections (Whangaehu)

Spray trials for Acacia trees (Whangaehu)

Issues

Aerial spraying did not happen this year. The timeframe to spray was small and strong wind conditions prohibited the work from happening.

Growth of Acacia trees on beaches of the Whangaehu where willow clearing has been successful. Is this something the scheme wants to target?

Photos Whangaehu



Growth of Acacia trees on the banks of the Whangaehu River

Photos Mangawhero



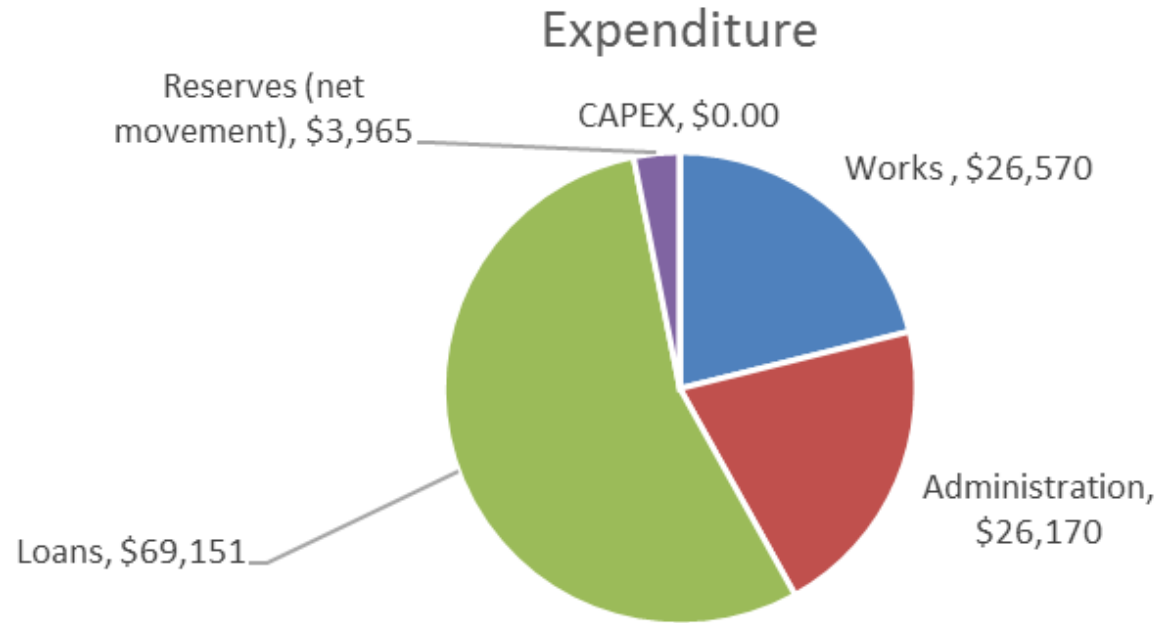
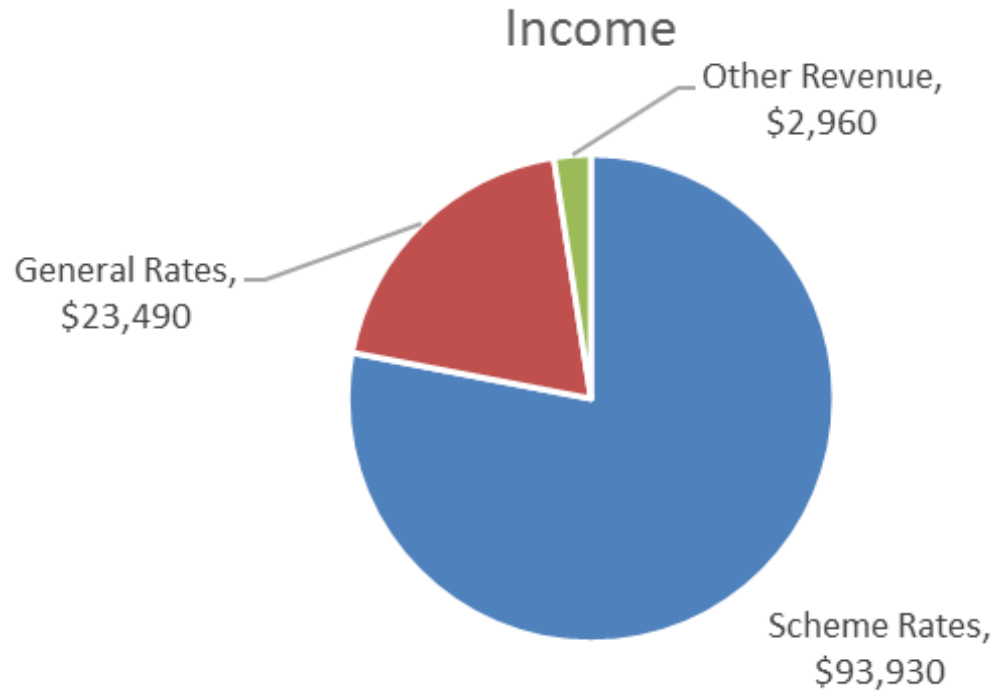
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Photos Turakina



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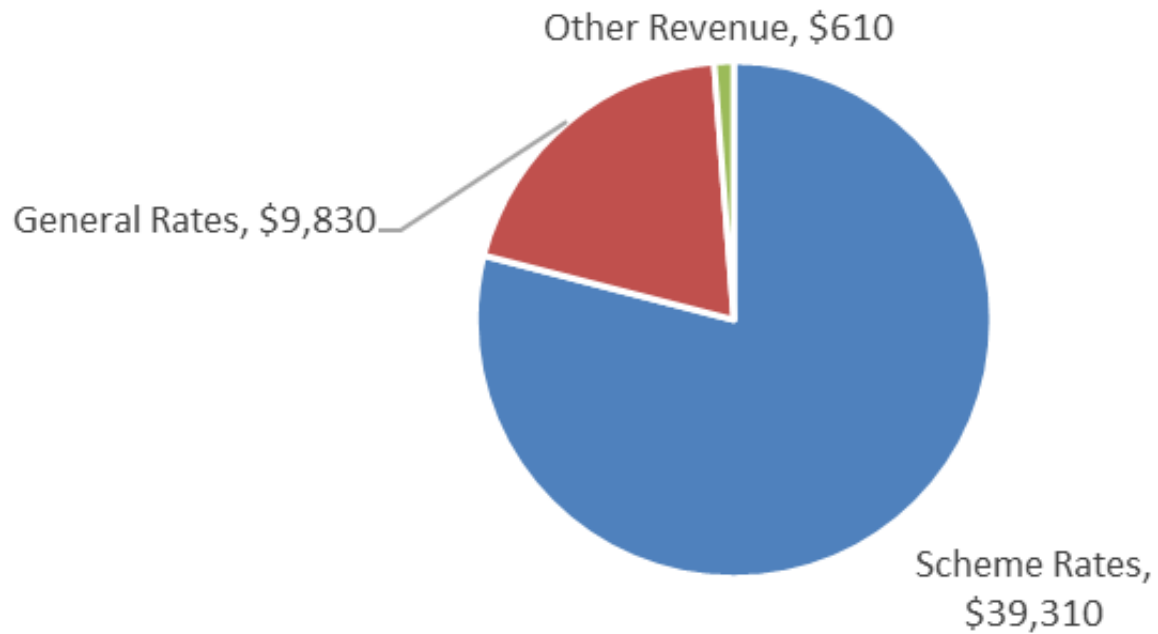
Income and Expenditure: 2019-20 Whangaehu-Mangawhero Scheme



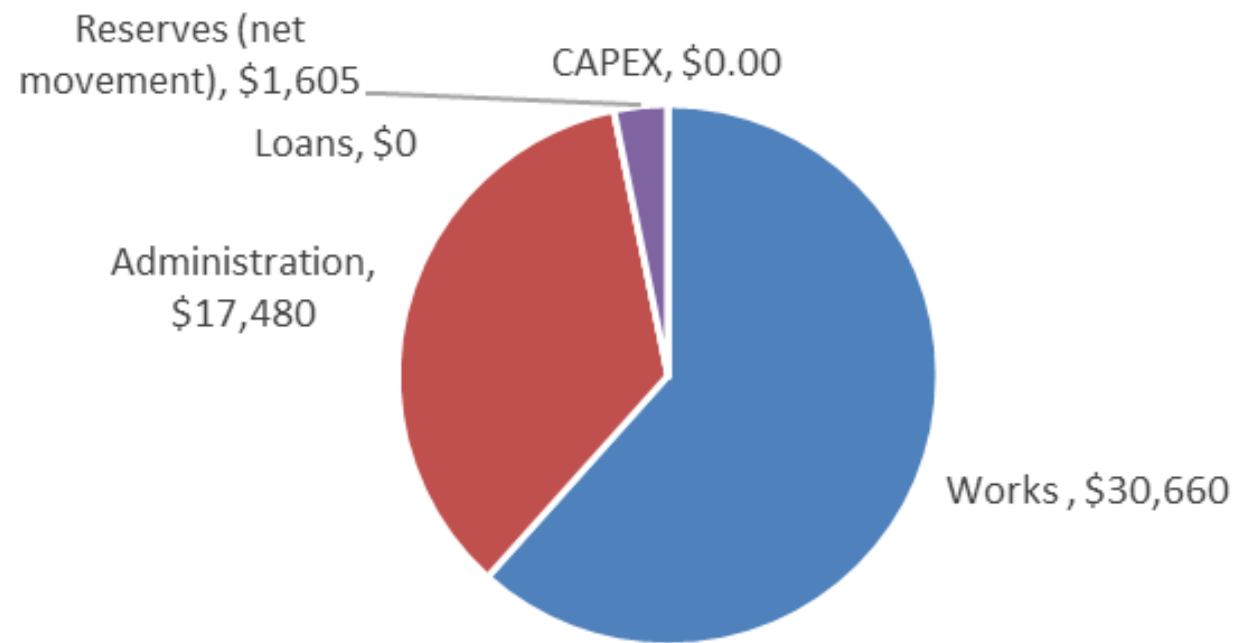
Income and Expenditure: 2019-20

Turakina Scheme

Income



Expenditure



Key Activities and Issues: 2020-21

Scheme Budget (Whangaehu-Mangawhero)

\$3,226 decrease in works expenditure

\$8,475 contribution to the Emergency Reserve Fund

Scheme Rate decrease 9%

Scheme Budget (Turakina)

\$457 increase in works expenditure

\$1,770 contribution to the Emergency Reserve Fund

Scheme Rate increase of 0%

Works Activity

Maintain focus on channel and vegetation maintenance.

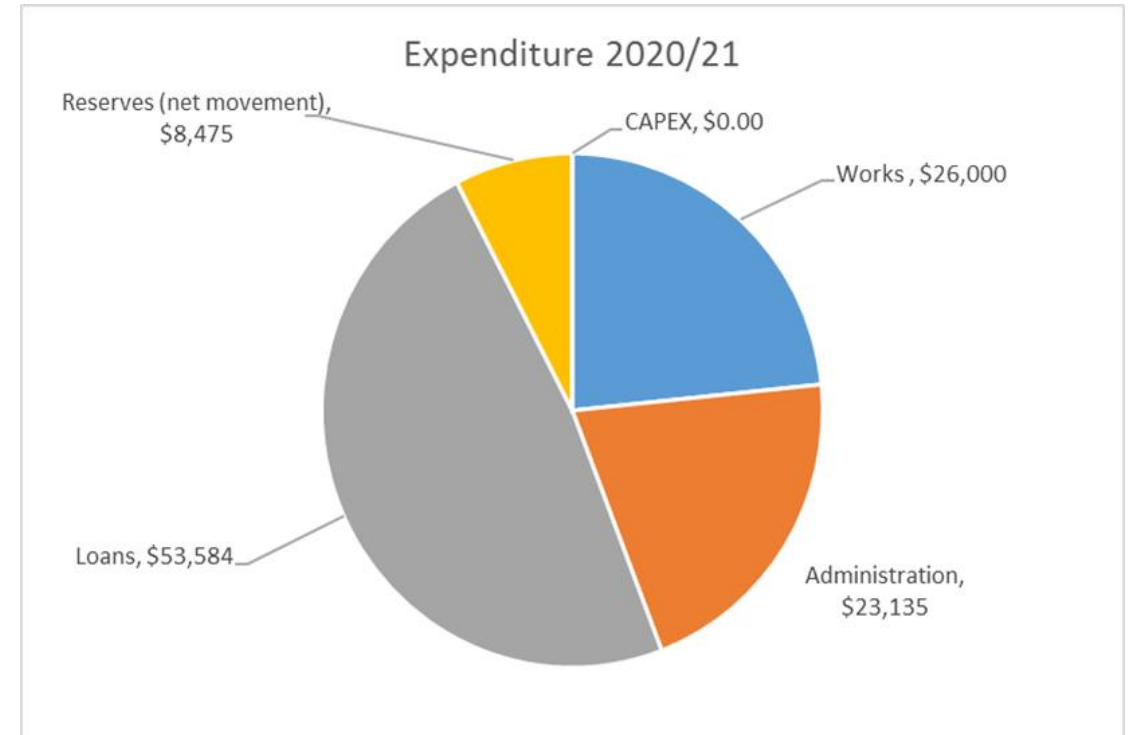
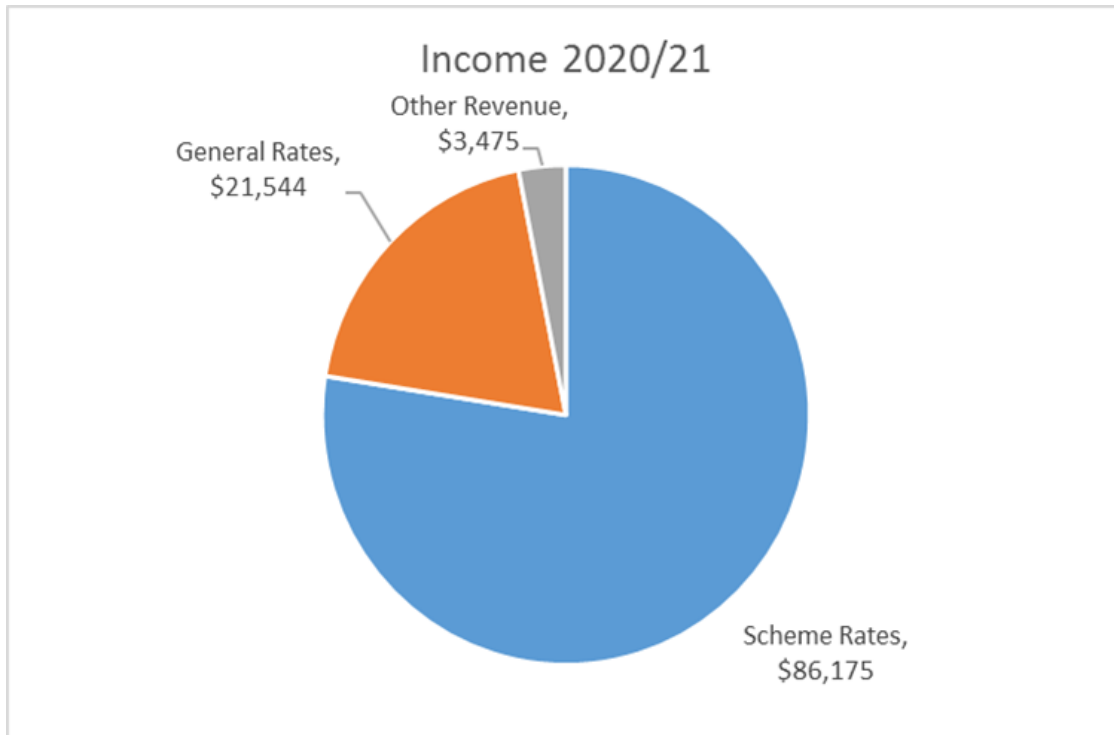
Increased expenditure in Turakina to allow further work in the upper reaches of the scheme

Scheme Review

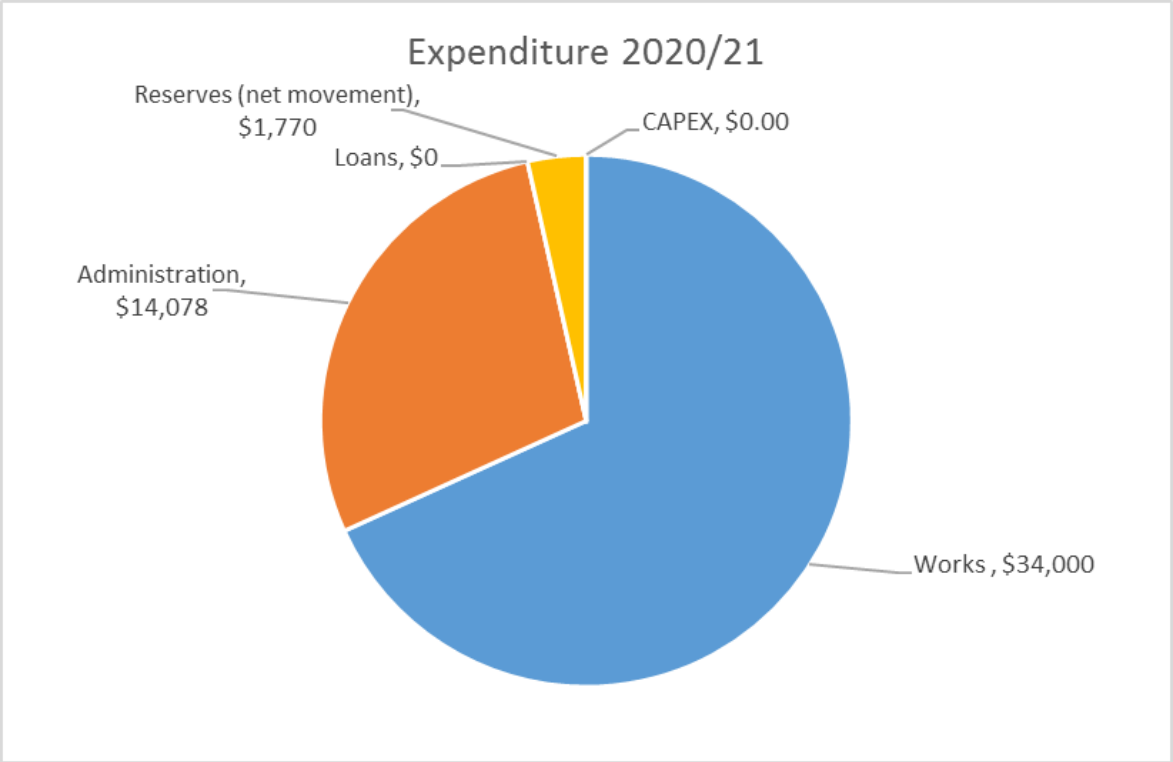
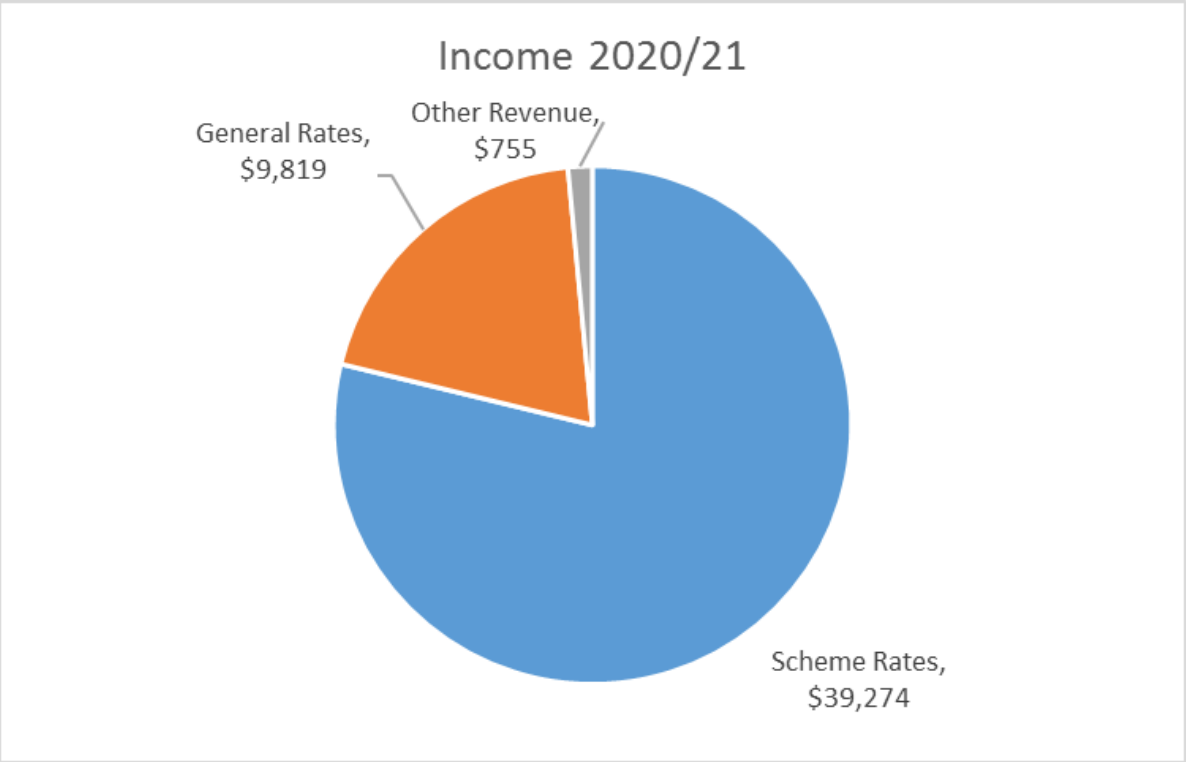
Operation and maintenance manual to be produced for both Whangaehu-Mangawhero and Turakina in 2020-21.

Income and Expenditure 2020-21

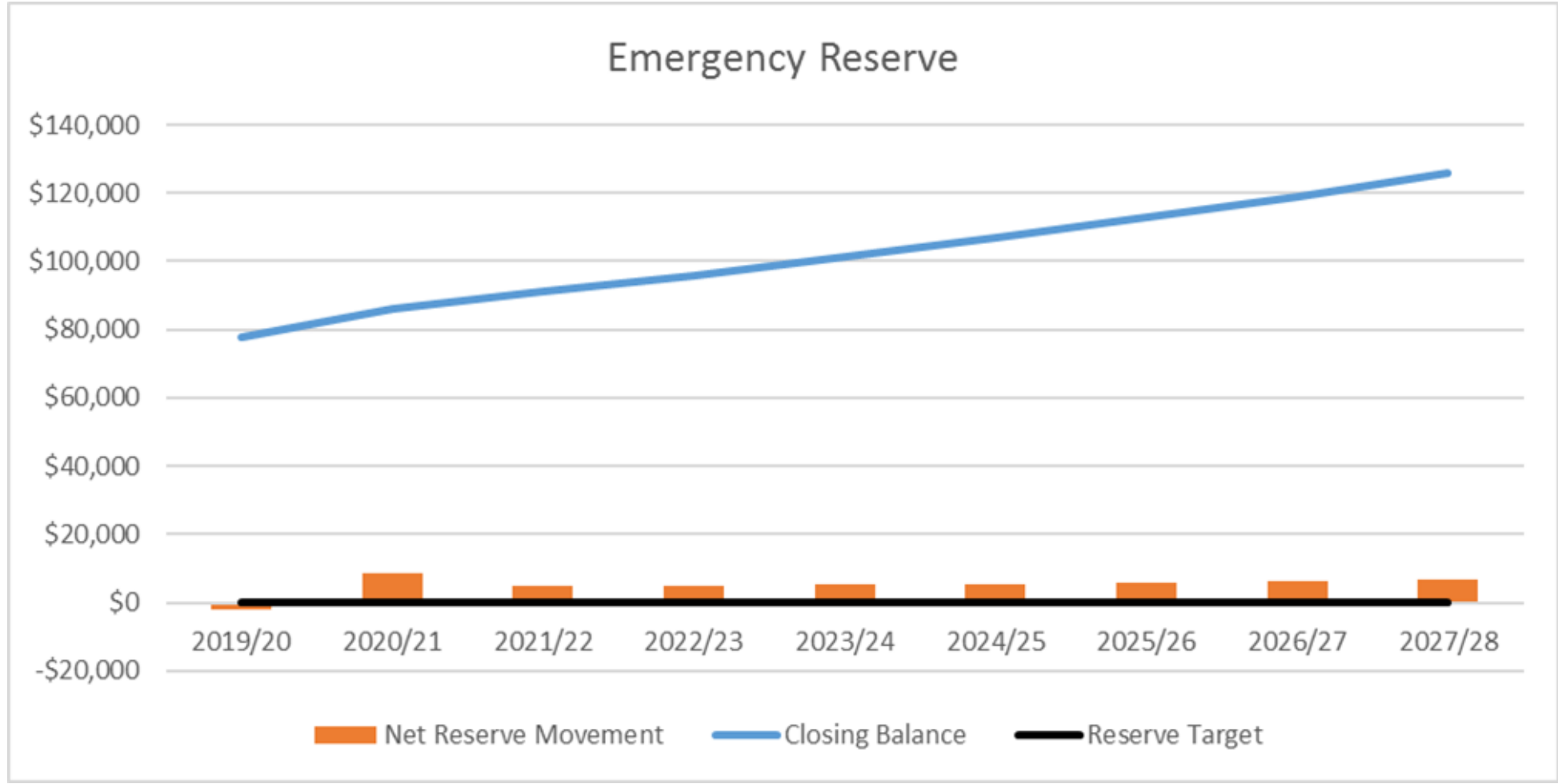
Whangaehu-Mangawhero Scheme



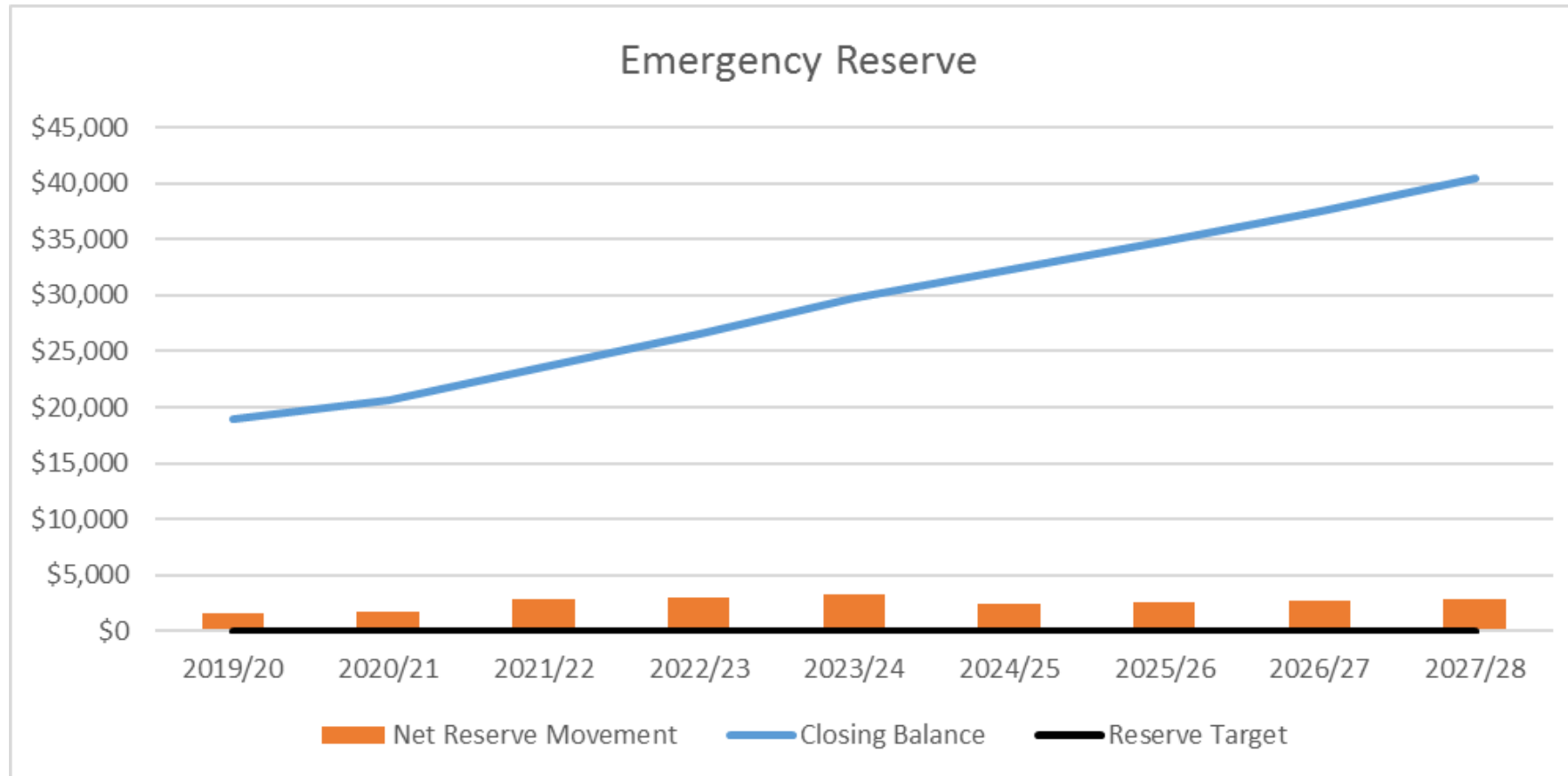
Income and Expenditure 2020-21 Turakina Scheme



Emergency Reserve Balance Whangaehu-Mangawhero Scheme



Emergency Reserve Balance Turakina Scheme



Loan Account Balances

Whangaehu-Mangawhero Scheme



Loan Account Balances Turakina Scheme

No Loan for this Scheme



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Issues Arising

WHANGAEHU-MANGAWHERO SCHEME and TURAKINA SCHEME

Presentation states “Flood Protection Scheme” when this is not the case.

Removed from this years presentation.

Lack of communication from Horizons.

Efforts are being made to restore this communication (ongoing).

Te Rimu Road blockage

Blockage to be removed.

5.5% rate increase

Submission was made to have this dropped to 0%



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The End



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REGIONAL COUNCIL



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