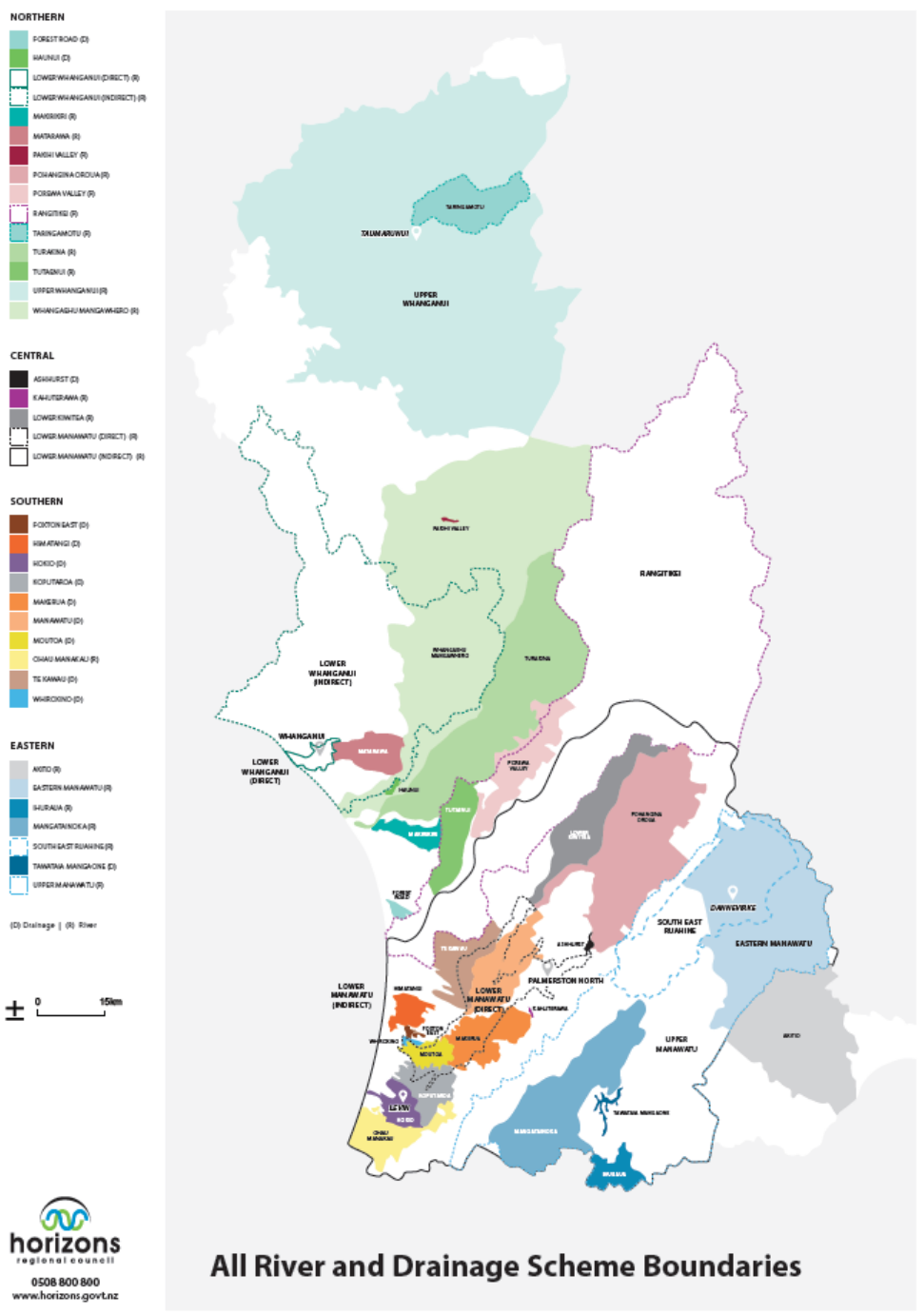




2020-21 Annual Plan
River Management Activity Group
MANAWATU DRAINAGE SCHEME

Horizons River Management

- 32 staff with a current operating budget of \$11.8M
- 34 River and drainage schemes
- Providing protection/benefit to 10 urban areas and 75,000 hectares of rural land





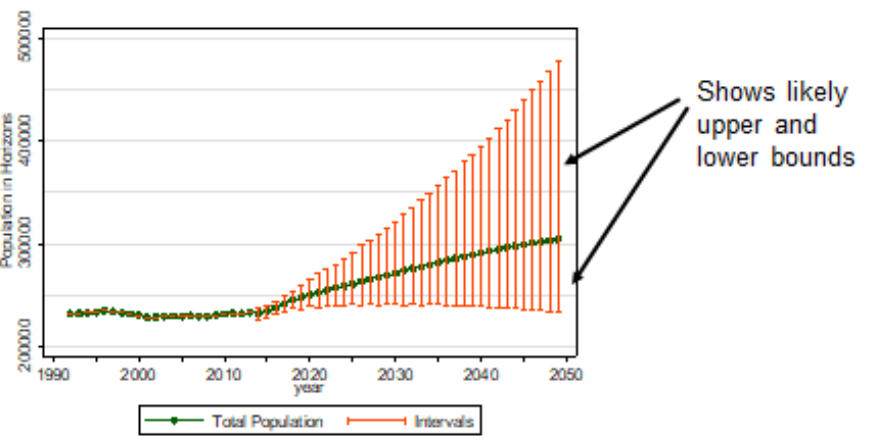
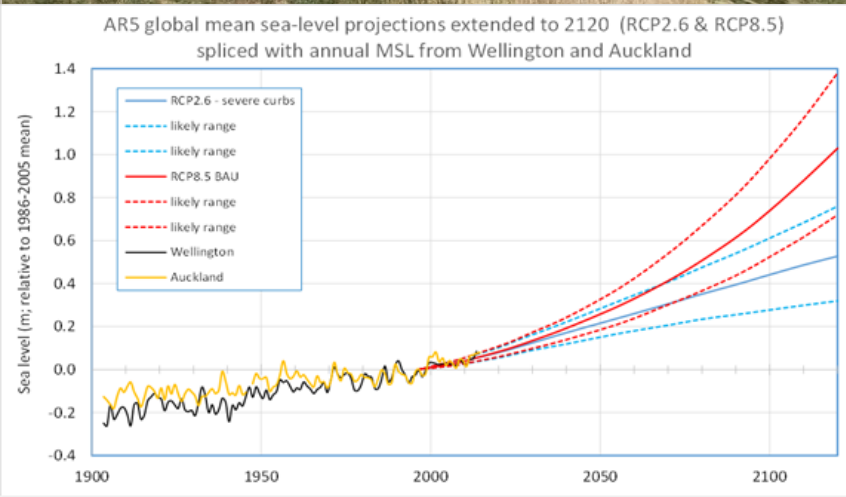
- 1,270km of river channel
- 1,100km of drain
- 23 pump stations with a total discharge capacity of 43m³/s
- 53 detention dams that store 4.3 million cubic metres of floodwater
- 500km of stopbanks



Significant river management issues for the Region

- Operational reliability
- Sediment build-up reducing flood protection standards
- Urban growth
- Climate change

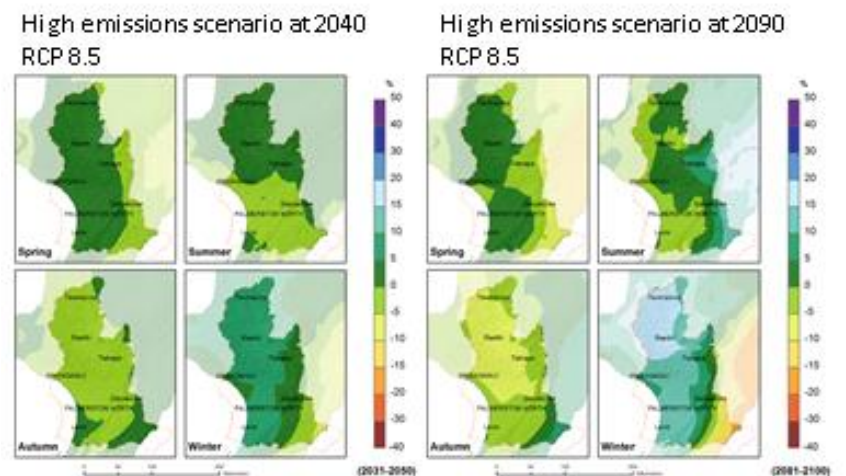
The population within the region is likely to grow to over 300,000 by 2050.



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



MANAWATU DRAINAGE SCHEME

Strategic Direction

The focus of the Scheme over the next 3 years to review the findings of the flood plain modelling that is currently underway and to consult with the scheme ratepayers regarding the level of service that is expected.

Aim

Maintain the existing network of drainage channels and flood protection and review the remaining life of the scheme major assets.

Scheme Design Criteria

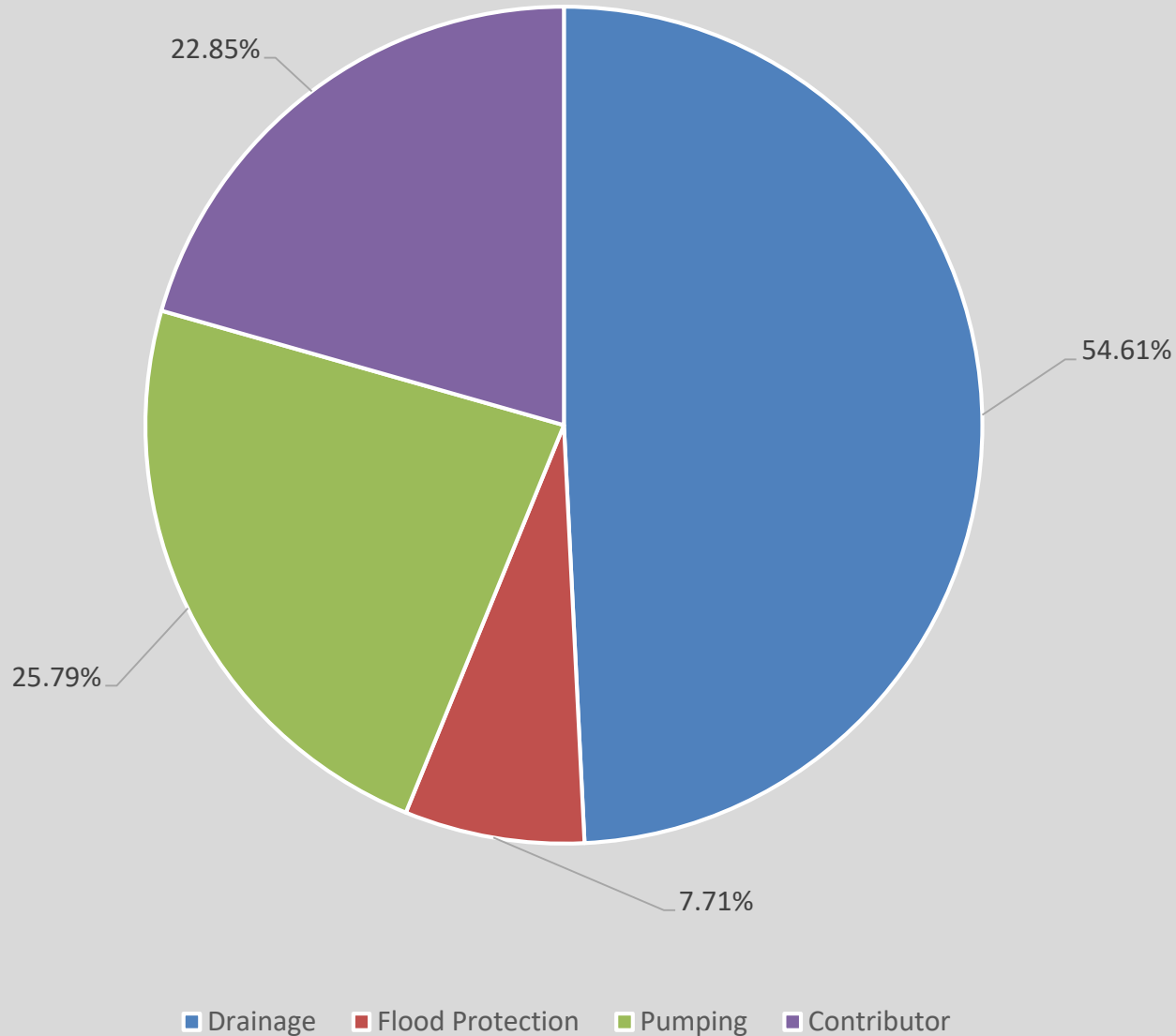
- Drainage Channels:
 - Design is based on a 2-5 year rainfall event.
 - Drain full drainage coefficient of 25mm/day.
- Culverts:
 - Designed based on drain full plus 30%.
 - Designed for a 50mm head loss over the culvert.

MANAWATU DRAINAGE SCHEME

Scheme Design Criteria Continued

- Stopbanks:
 - Burkes and Main Drain banks are designed for 20 year discharge.
 - 8 spillways along Burkes Drain.
- Spillway Events:
 - Small events will occur on average once every 4 years affecting up to 370ha.
 - Larger events will occur on average every 10 years.
- Pumping
 - Operate the pump station in a manner that reduces the frequency and the magnitude of the spillway operations, whilst still maximizing the use of gravity drainage.

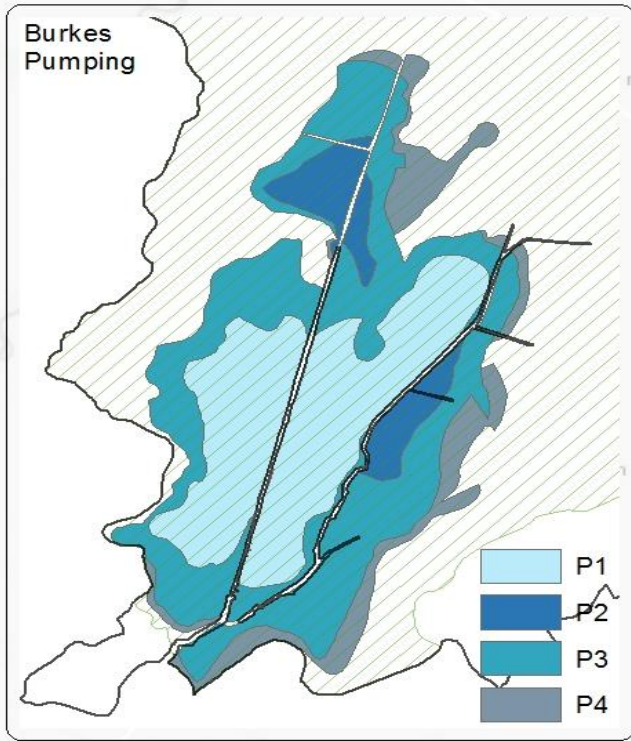
Scheme Funding



Funding Policy

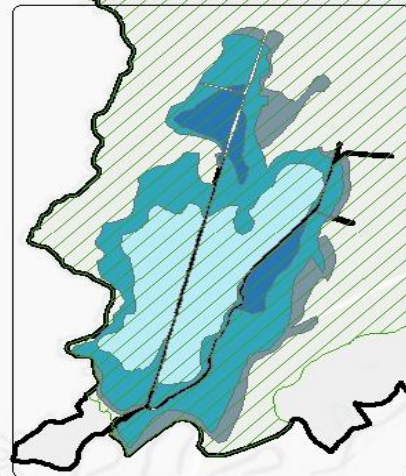
The Schemes funding comes from three revenue sources:

- Targeted Rates – differential targeted rates levied on properties directly benefiting from or causing the need for the work. 80% of scheme cost.
- General Rates – uniformed rate levied over all properties in the Horizons Region. 20% of the scheme cost.
- 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

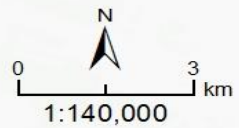
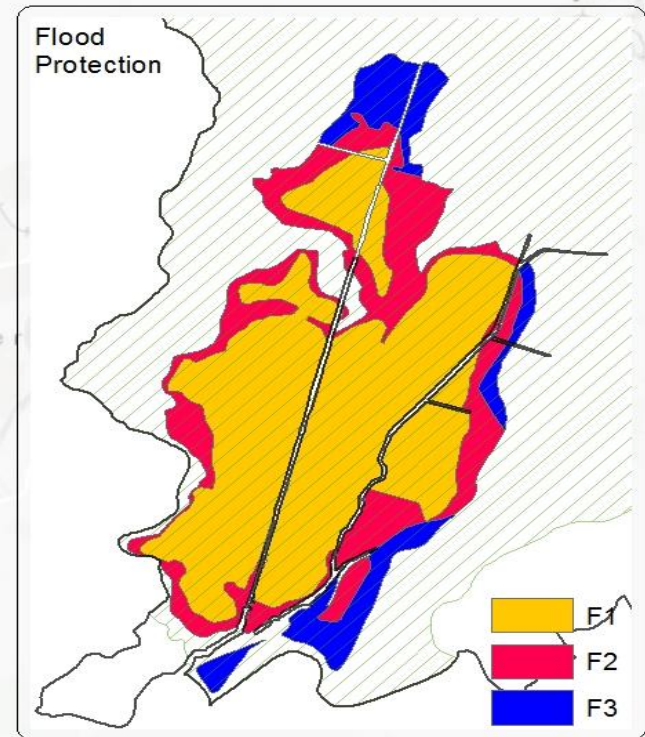


Manawatu

Scheme Presentation Map



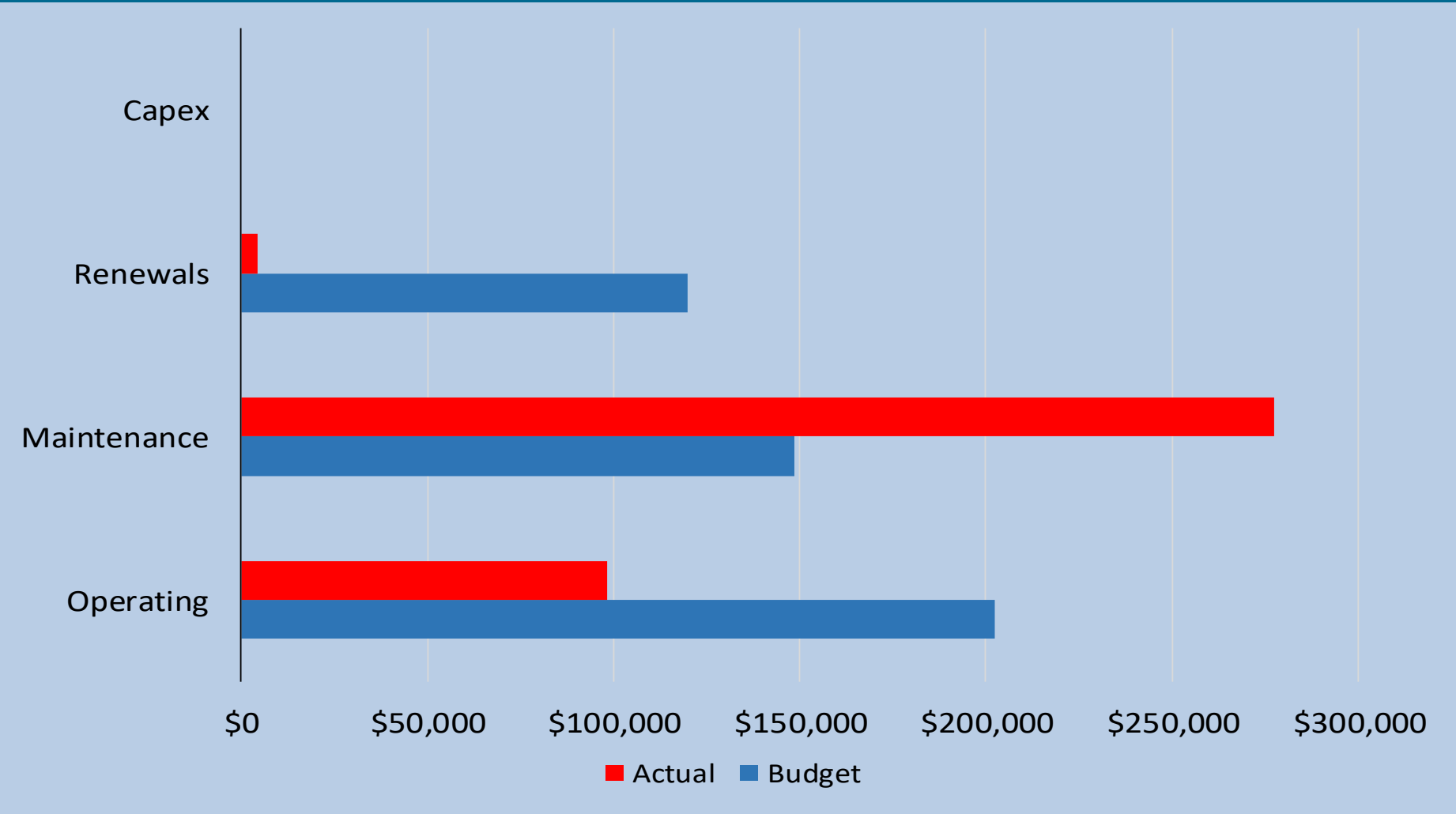
- Longburn (CL)
- Contributor (CN)
- Drainage UAC (DU)
- Drainage (DR)



Key Activities and Issues: 2019-20

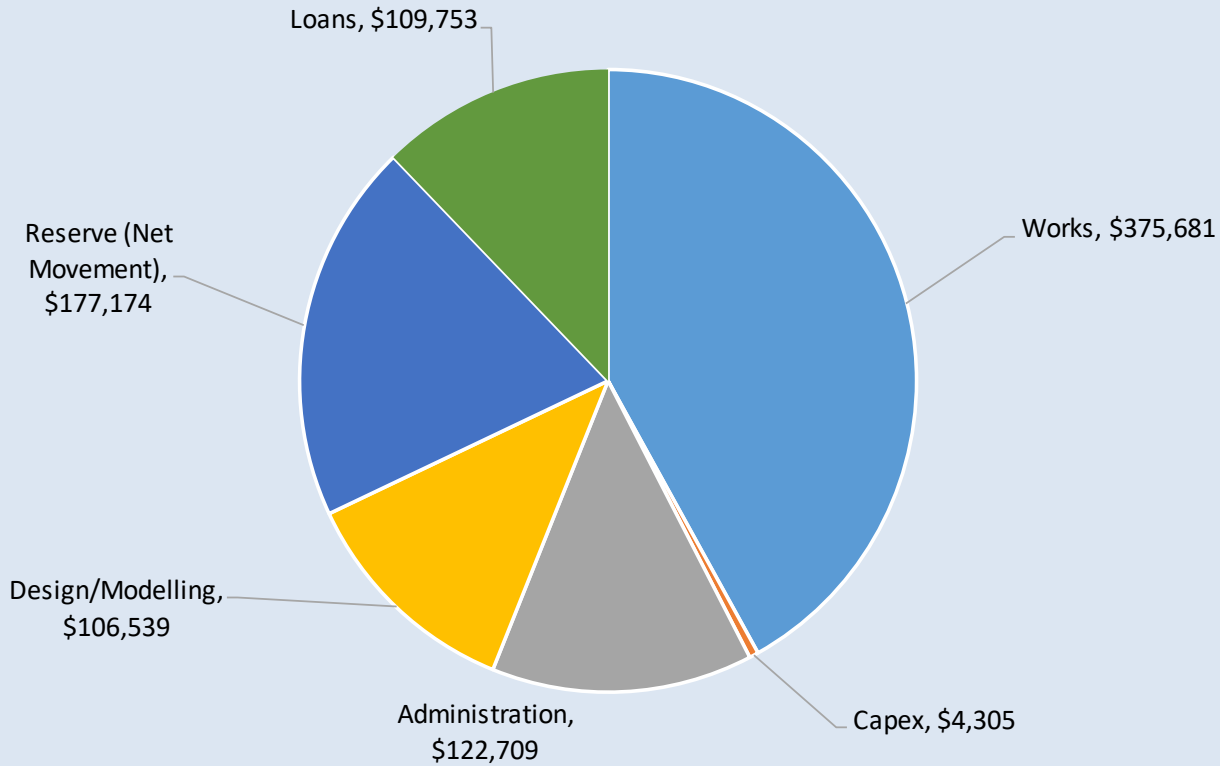
- **Scheme Expenditure**
 - Expenditure is on track to stay within budget.
- **Works Activity**
 - Drain maintenance on track with 80% of drains either being machine cleaned or sprayed with herbicides.
 - Several slumping issues on scheme drains have been repair including a couple on roadside drains.
 - Fallen trees continue to be an on going issues in a number of drains around the scheme.
 -
- **Design Investigations**
 - Flood plain mapping of the Manawatū Drainage Catchment underway.

Works Budget vs Actual: 2019-20

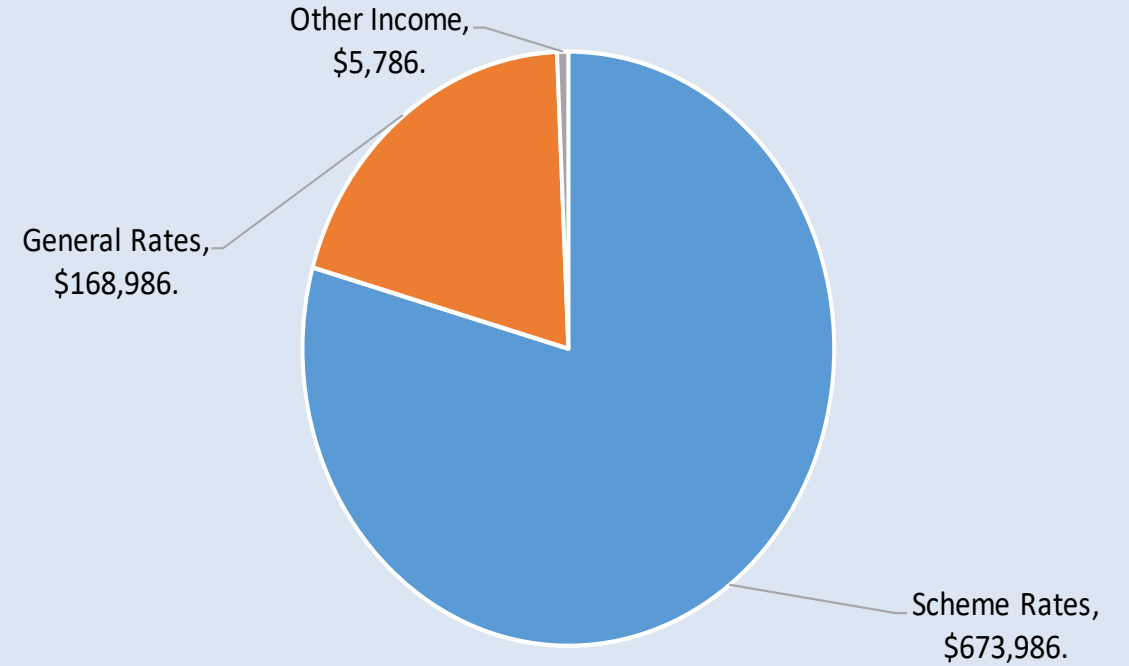


Income and Expenditure: 2019-20

Operating Expenditure



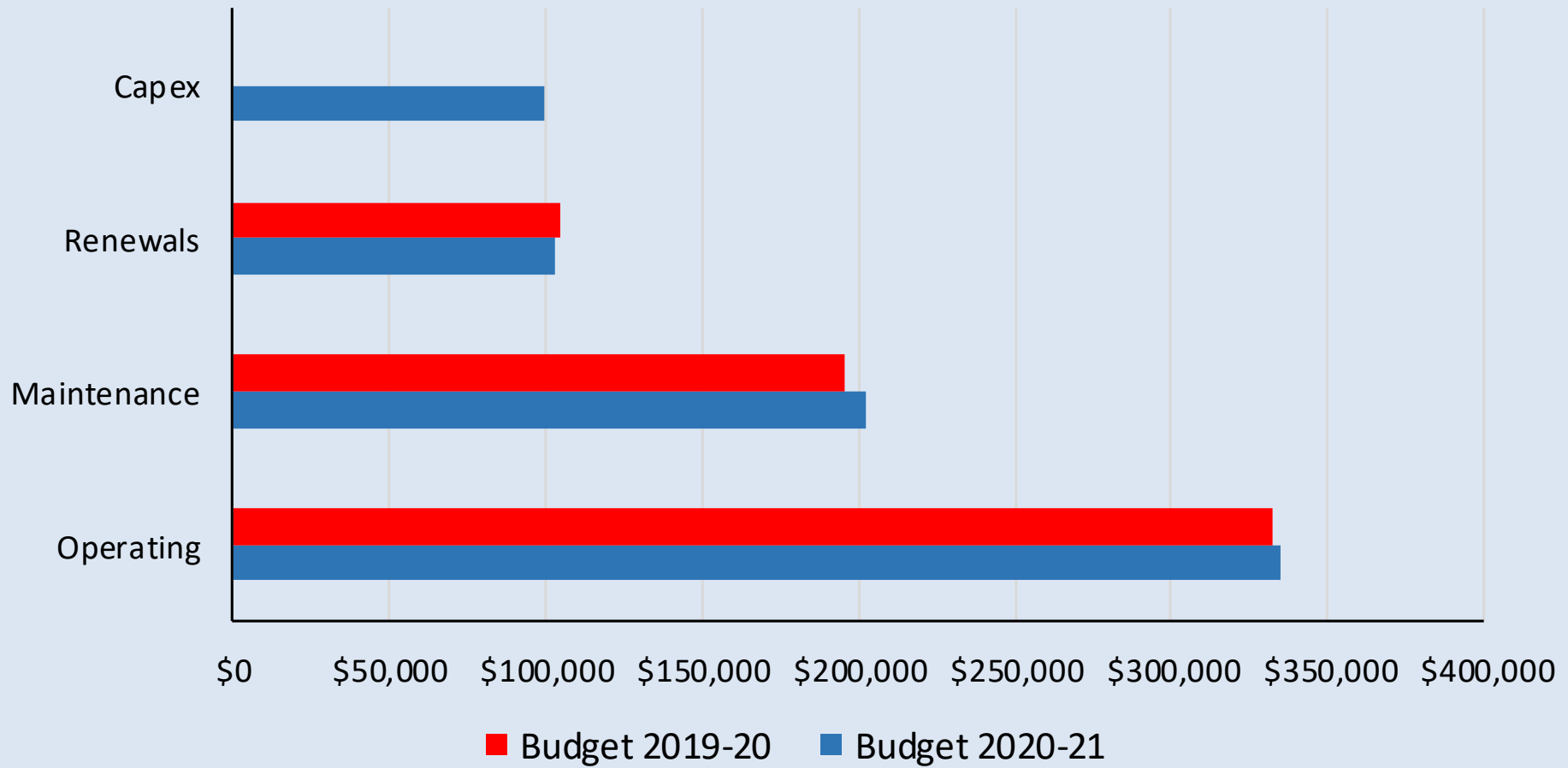
Income



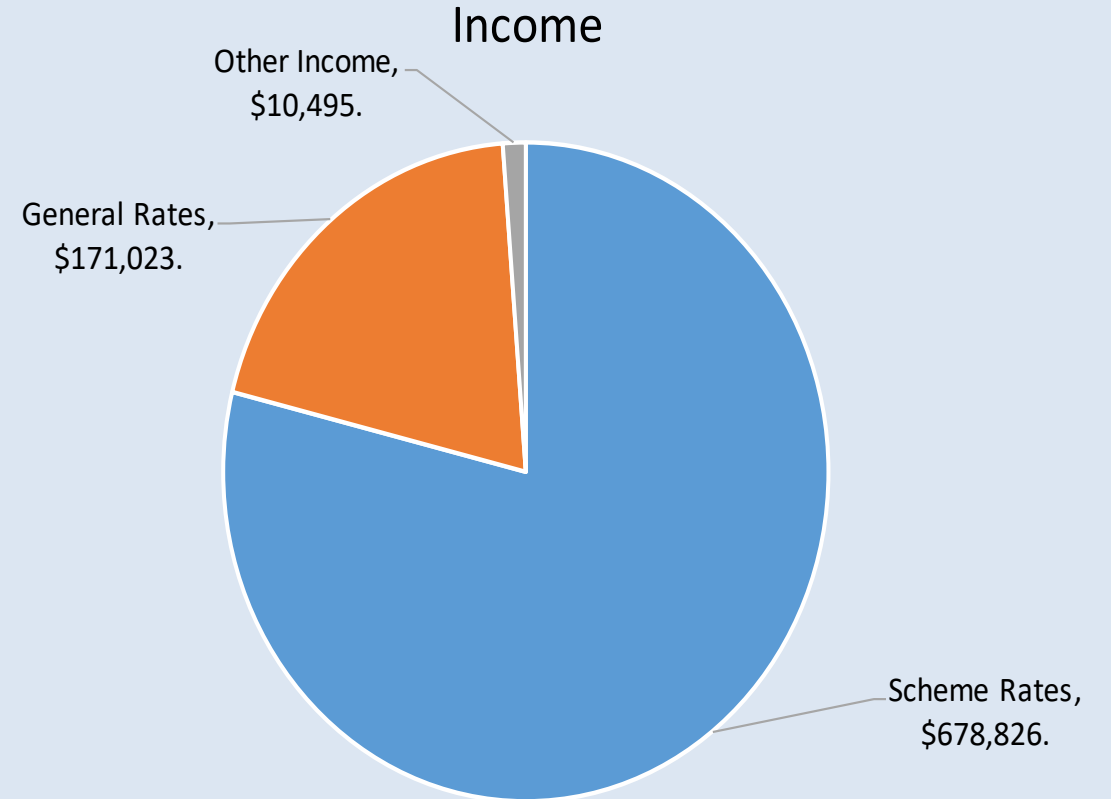
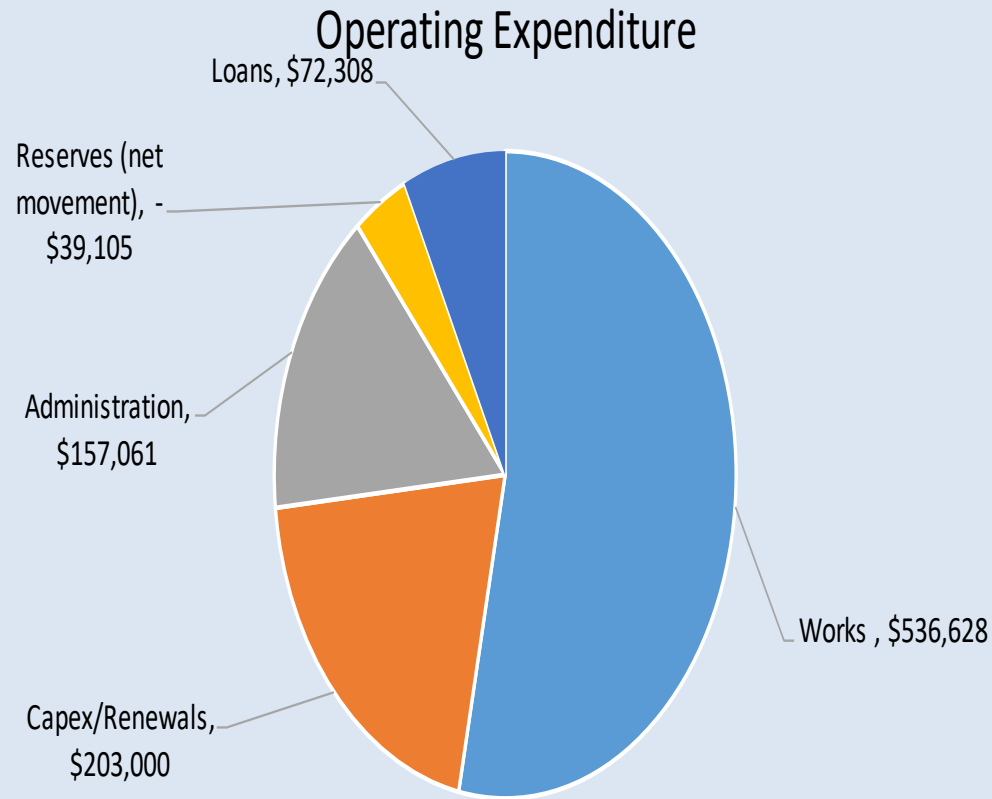
Key Activities and Issues: 2020-21

- **Scheme Budget**
 - \$8,976 increase in works expenditure.
 - Scheme Rate increase of 1%. (\$4,930)
 - Capital funding of \$100k for drainage upgrades included in budget subject to the completion of the flood modelling.
 - Loan Drawdown of \$80k to fund capital works.
- **Works Activity**
 - Increasing demand for drain maintenance.
- **Design Investigations**
 - Complete the flood plain mapping project and review findings.
- **Review/Audit**
 - Review of floodgates and development of O&M Manuals starting 2020-21.

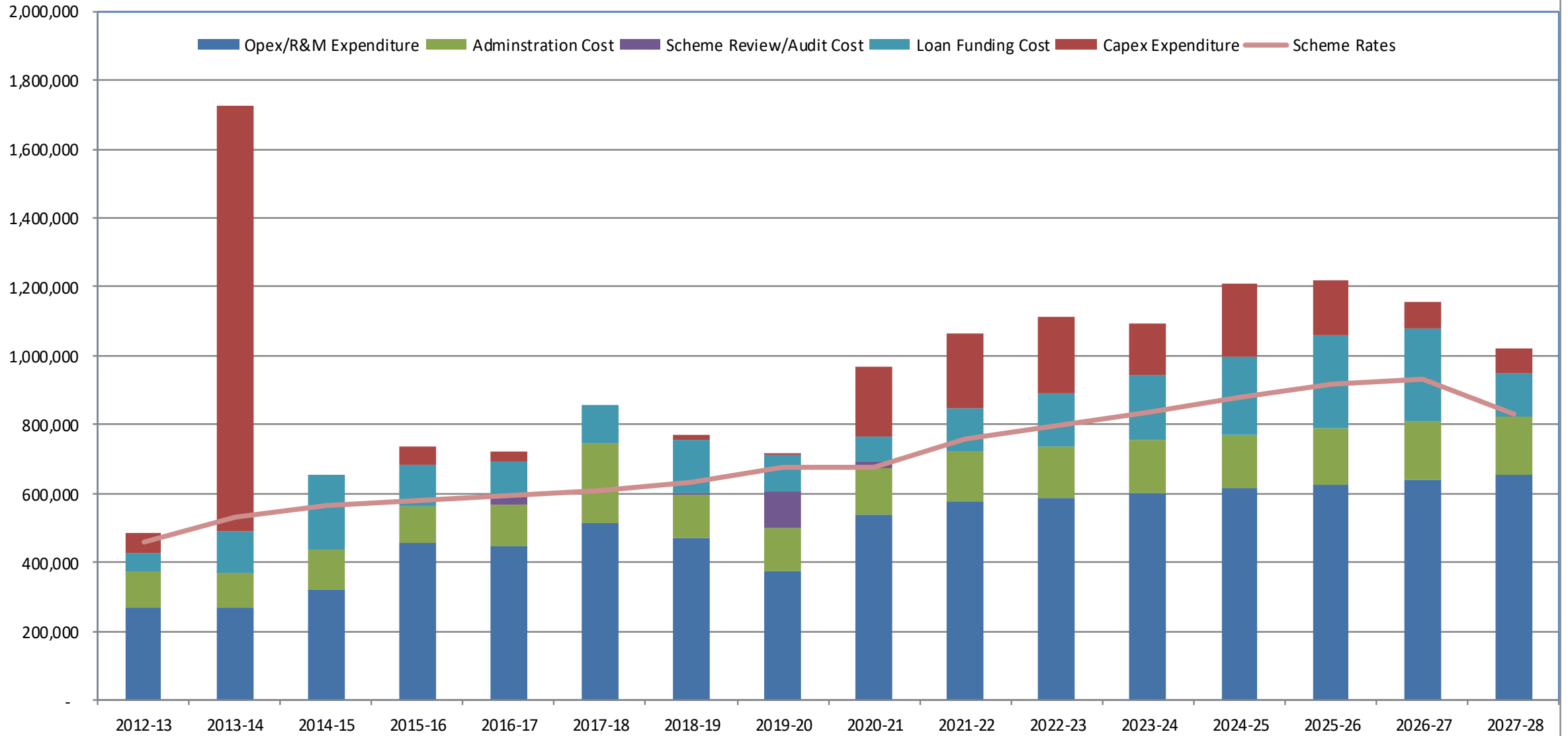
Works Budget 2019-2020 vs 2020-2021



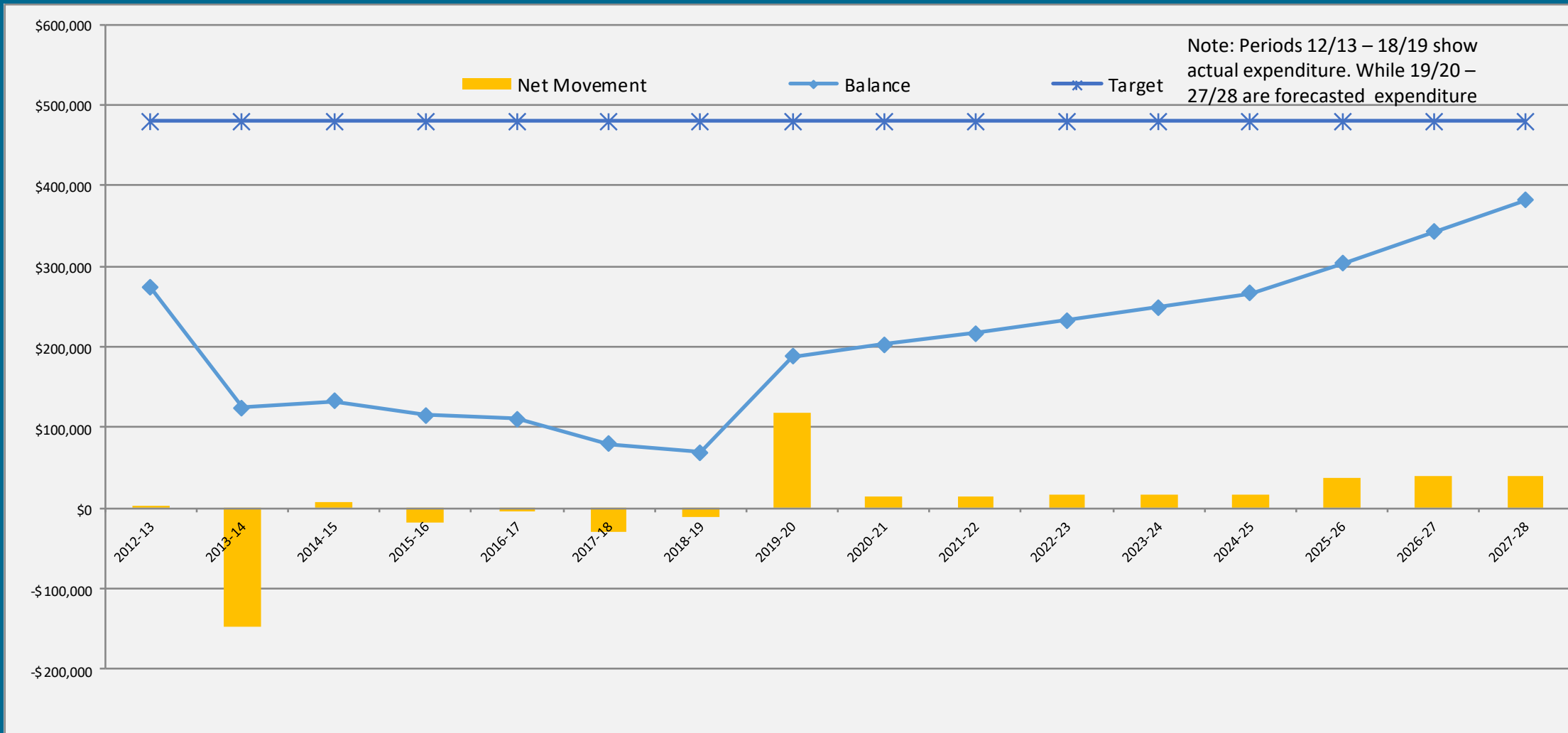
Income and Expenditure 2020-21



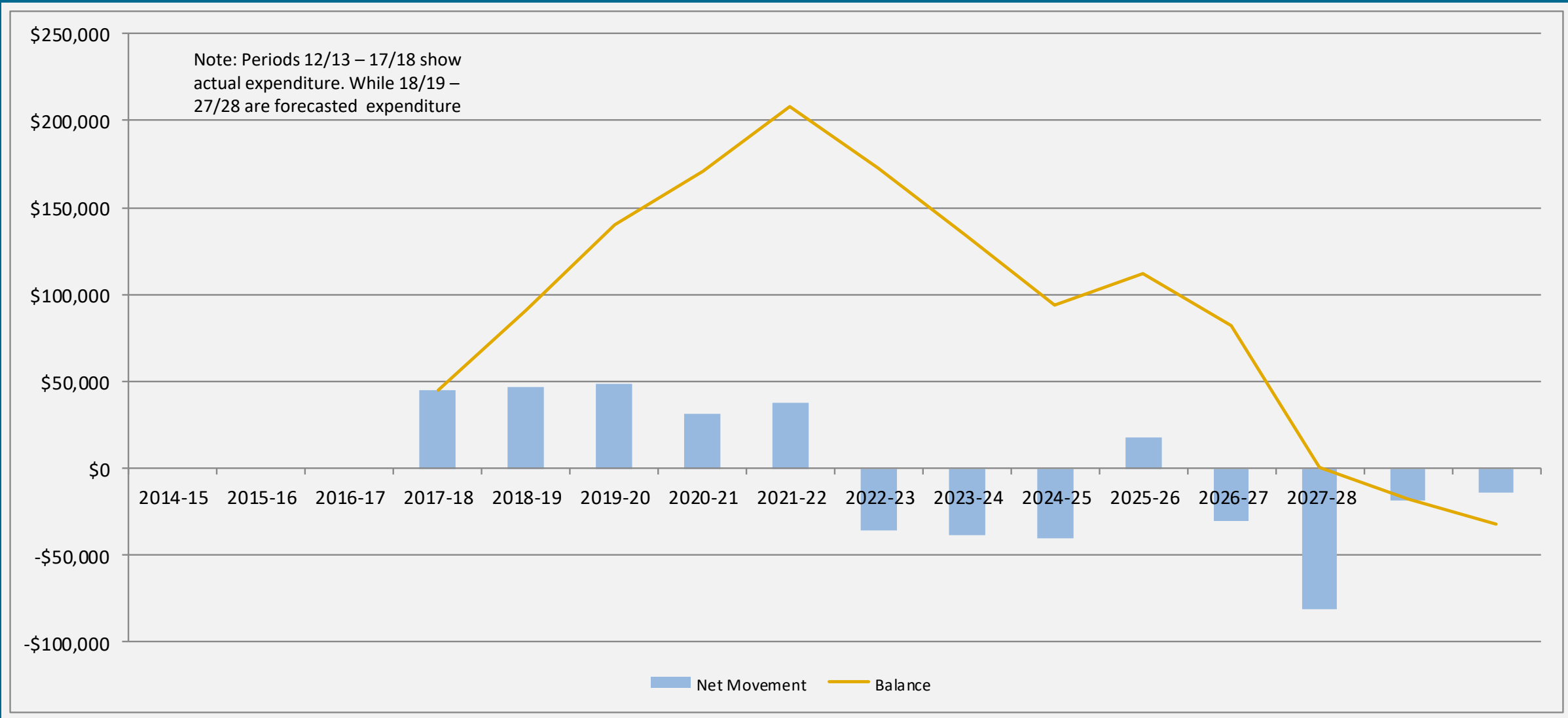
Manawatu Drainage Scheme



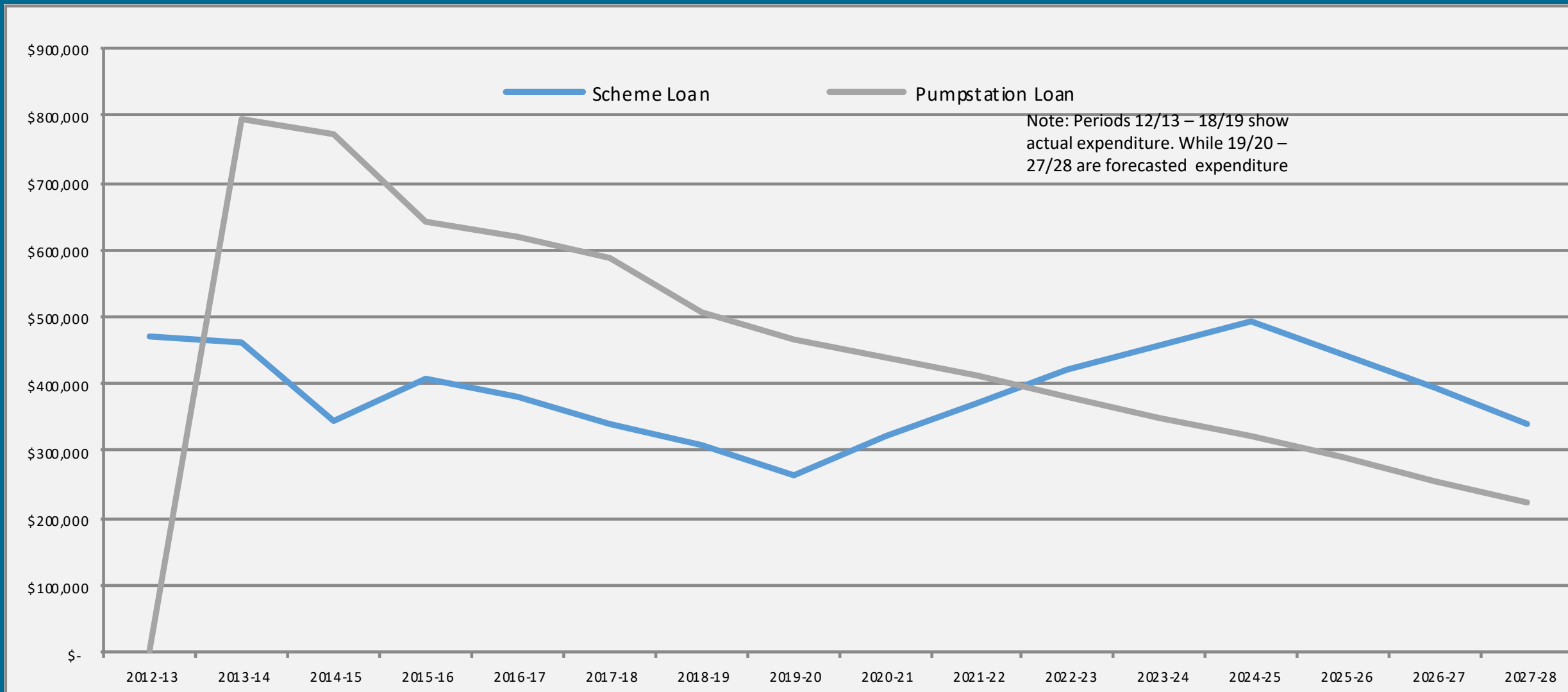
Emergency Reserve Balance



Renewal Reserve Balance



Loan Account Balances



Loan	Closing Balance 2019-20	Closing Balance 2020-21
Scheme Loan	\$ 262,544	\$ 320,466
Pump Station Loan	\$ 467,771	\$ 439,290

Issues Arising from the 2019 Catchment Community Meeting

Issues	Action Required	Who	Comment
flood modelling	Is the modelling being done as a desk study or going outdoors to see the situation and talk to relative landowners	John	Both, HRC will be consulting with Rate payers
Burkes pump station	need another Burkes pump station meeting with more relevant land owners	John	Done held on the 14th Feb

The End